Reference 59 of 87 ERATION TREATY (PCT)

### (19) World Intellectual Property Organization International Bureau





### (43) International Publication Date 10 May 2001 (10.05.2001)

# **PCT**

# (10) International Publication Number WO 01/32927 A2

(51) International Patent Classification7:

- (21) International Application Number: PCT/US00/30396

C12Q 1/68

(22) International Filing Date:

2 November 2000 (02.11.2000)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/163,508

4 November 1999 (04.11.1999) US

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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### Published:

Without international search report and to be republished upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TISSUE SPECIFIC GENES OF DIAGNOSTIC IMPORT

(57) Abstract: The present invention relates to a composition comprising a plurality of polynucleotides which are cell and/or tissue specific and which may be used in their entirety or in part as references in producing an expression profile that defines a metabolic or developmental process, treatment, condition, disease, or disorder.

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#### TISSUE SPECIFIC GENES OF DIAGNOSTIC IMPORT

#### **TECHNICAL FIELD**

The present invention relates to a composition comprising a plurality of polynucleotides which 5 are cell and/or tissue specific. These polynucleotides may be used to define and direct a metabolic or developmental process, to identify or to monitor the progression of a condition, disease, or disorder, or to evaluate and monitor the efficacy of a treatment protocol.

#### **BACKGROUND ART**

Array technology can provide a simple way to explore the expression of a single polymorphic gene or the expression profile of a large number of related or unrelated genes. When the expression of a single gene is examined, arrays are employed to detect the expression of a specific gene or its variants. When an expression profile is examined, arrays provide a platform for examining which genes are tissue specific, direct the differentiation of a cell type or tissue, carry out housekeeping functions, function as parts of a signaling cascade, or characterize a particular genetic predisposition, 15 condition, disease, or disorder.

The application of gene expression profiling is particularly relevant to improving diagnosis and prognosis of disease. However, in order to determine whether expression of a particular gene in a particular disease is significant, it is useful to provide a reference set of tissue and cell specific genes against which genes expressed during the disease process may be compared. For example, both the levels and sequences expressed in brain tumors may be compared with the levels and sequences expressed in normal brain tissue. These comparisons may be made on a single array by incorporating a particular tissue or cell specific reference set alongside novel sequences or on multiple arrays, each of which contains at least some subset of the known reference set.

The present invention satisfies a need in the art in that it provides such a reference set. The reference set may be used in its entirety or in part to produce an expression profile that may be used to define and direct a metabolic or developmental process, to identify or to monitor the progression of a condition, disease, or disorder, or to evaluate and monitor the efficacy of a treatment protocol.

#### **SUMMARY**

The present invention provides a plurality of tissue or cell specific polynucleotides which may be used on an array to produce an expression profile. This profile may define expression of the polynucleotides in normal tissue, during a particular metabolic or developmental process or during the onset, progression, or treatment of a human condition, disease, or disorder. In one embodiment, these polynucleotides are selected from SEQ ID NOs:1-416.

The invention also provides a plurality of polynucleotides which display tissue or cell specific

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expression and are selected som: a) SEQ ID NOs:209-218 and 1-10, cell specific polynucleotides of heart and fragments thereof; b) SEQ ID NOs:219-249 and 11-41, cell specific polynucleotides of skeletal muscle and fragments thereof; c) SEQ ID NOs:250-251 and 42-43, cell specific polynucleotides of uterus and fragments thereof; d) SEQ ID NOs:252-256 and 44-48, cell specific polynucleotides of 5 ovary and fragments thereof; e) SEQ ID NOs:257-263 and 49-55, cell specific polynucleotides of stomach and fragments thereof; f) SEQ ID NOs:264-283 and 56-75, cell specific polynucleotides of intestine and fragments thereof; g) SEQ ID NOs:284-293 and 76-85, cell specific polynucleotides of lung and fragments thereof; h) SEQ ID NOs:294-345 and 86-137, cell specific polynucleotides of liver and fragments thereof; i) SEQ ID NOs:346-356 and 138-148, cell specific polynucleotides of kidney 10 and fragments thereof; j) SEQ ID NOs:357-374 and 149-166, cell specific polynucleotides of pancreas and fragments thereof; and k) SEQ ID NOs:375-416 and 167-208, cell specific polynucleotides of brain and fragments thereof. In one aspect, the plurality of polynucleotides are immobilized on a substrate.

In another embodiment, the expression of a plurality of polynucleotides is used to detect 15 expression in a tissue. In one aspect, the tissue is embryonic stem cells which are differentiating into brain, heart, kidney, liver, lung, muscle or pancreatic tissues. In a second aspect, the tissue is a biopsy from diseased brain, heart, kidney, liver, lung, muscle, ovarian, pancreatic, small intestine, stomach, or uterine tissues which is being diagnosed for a cancer or immune or inflammatory disease or subjected to forensic analysis. In a third aspect, the point of origin of a metastatic cancer is determined.

In another embodiment, the polynucleotides are used in high throughput methods of screening molecules or compounds to identify a ligand, the method comprising combining a polynucleotide with molecules or compounds under conditions to allow specific binding and detecting specific binding. thereby identifying a ligand which specifically binds to the polynucleotide. The molecules or compounds to be screened are selected from DNA molecules, RNA molecules, PNAs, mimetics. 25 peptides, and proteins.

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In another embodiment, the invention provides a substantially purified polynucleotide selected from SEQ ID NOs:212, 228, 233, 259, 271, 287, 316-319, 324, 370, 379, 380, 383, 410, and 412 or a fragment thereof, SEQ ID NO:4, 20, 25, 51, 63, 79, 108-111, 116, 162, 171, 172, 175, 202, and 204. In one aspect, the polynucleotide selected from SEQ ID NOs:NOs:212, 228, 233, 259, 271, 287, 30 316-319, 324, 370, 379, 380, 383, 410, and 412 or a fragment thereof, SEQ ID NO:4, 20, 25, 51, 63, 79, 108-111, 116, 162, 171, 172, 175, 202, and 204 is used in an expression vector transformed into a host cell to produce a protein or a portion thereof by culturing the host cell under conditions for the expression of protein and recovering the protein from the host cell culture.

In a third embodiment, the invention provides a protein or a portion thereof. In one aspect, the 35 protein is used in a high throughput method to screen large numbers of molecules or compounds to

PCT/US00/30396 identify at least one ligand in specifically binds the protein, the method comprising combining the protein with the molecules or compounds under conditions to allow specific binding and detecting specific binding, thereby identifying a ligand which specifically binds the protein. In a second aspect, the protein is used to purify a ligand, the method comprising combining the protein with a sample under 5 conditions to allow specific binding, recovering the bound protein, and separating the protein from the ligand, thereby obtaining purified ligand. The molecules or compounds screened or purified may be selected from DNA molecules, RNA molecules, PNAs, mimetics, peptides, proteins, agonists, antagonists, antibodies or their fragments, immunoglobulins, inhibitors, drug compounds, and pharmaceutical agents. Any of these molecules or compounds may have diagnostic or therapeutic 10 applications.

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# DESCRIPTION OF THE SEQUENCE LISTING AND TABLES

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The Sequence Listing is a compilation of polynucleotides obtained by sequencing and extension of clone inserts of different cDNAs. Each sequence is identified by a sequence identification number (SEQ ID NO or SEQ ID) and by the clone number (Incyte ID) from which it was obtained.

Table 1 lists the fragments and extended polynucleotides by their SEQ ID NO and cDNA 20 respectively, tissue, and by the description associated with at least a fragment of a homologous polynucleotide in GenBank. The descriptions were obtained using the sequences of the Sequence Listing and BLAST analysis.

Table 2 lists the source of the RNAs used to produce target polynucleotides for hybridization to the UNIGEM V microarray (Incyte Genomics, Palo Alto CA). The columns present the Source No, 25 Tissue, Age, Ethnicity/Sex, Cause of Death, and Conditions or Diseases, as known for each donor.

Table 3 shows the data for each of the clones across each of the tissues used in the experiments. The columns present Clone ID and the tissues (with source number)--heart, skeletal muscle, uterus, stomach, small intestine, lung, liver, kidney, pancreas, spleen and brain. This data was produced using GEMTOOLS software (Incyte Genomics).

30 Table 4 presents the analysis of variance (ANOVA) for the data. The columns present Clone ID, Var. Betw (variance between), Var. Within (variance within), F (value), and Probability. These values were produced using batch ANOVA (Sokal and Rohlf (1969) Biometry; the Principles and Practice of Statistics in Biological Research, WH Freeman, San Francisco CA) and EXCEL98 software (Microsoft, Seattle WA).

35 Table 5 shows the cell and tissue specificity of the polynucleotides across tissues (heart, WO 01/32927

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skeletal muscle, uterus, sto , small intestine, lung, liver, kidney, pancre. pleen and brain). The cell and tissue specific groupings were produced using mean values [mean (tissue)- mean (entire set)] and grouped using EXCEL98 software (Microsoft).

#### **DESCRIPTION OF THE INVENTION**

#### 5 Definitions

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The term "array" refers to an ordered arrangement of hybridizable polynucleotides. These are arranged so that there are a "plurality" of polynucleotides, preferably at least one polynucleotide, preferably at least 100 polynucleotides, and more preferably at least 1,000 polynucleotides, and even more preferably at least 10,000 polynucleotides on a 1 cm<sup>2</sup> substrate. The maximum number of polynucleotides is unlimited, but is at least 100,000. Furthermore, the signal from each of the hybridized polynucleotides is individually distinguishable.

A "polynucleotide" refers to a chain of nucleotides. Preferably, the chain has from about 15 to 10,000 nucleotides and more preferably from about 400 to 6,000 nucleotides. The term "probe" refers to a probe polynucleotide capable of hybridizing with a target polynucleotide to form a hybridization complex. In most instances, the sequences of the probe and target polynucleotides will be complementary (no mismatches) when aligned. In some instances, there may be up to a 10% mismatch.

"Fragment" refers to any part of an Incyte clone or polynucleotide which retains a useful characteristic. Useful fragments may be used in hybridization technologies, to identify or purifyligands, or as a therapeutic to regulate replication, transcription or translation.

"Ligand" refers to any agent, molecule, or compound which will bind specifically to a complementary site on a polynucleotide or protein. Such ligands stabilize or modulate the activity of polynucleotides or proteins and may be composed of at least one of the following: inorganic and organic substances including nucleic acids, proteins, carbohydrates, fats, and lipids.

"Purified" refers to any molecule or compound that is removed, isolated, or separated from its 25 natural environment and is at least about 60% free, and more preferably about 90% free, from other components with which it is naturally associated.

"Specific binding" refers to a special and precise interaction between two molecules which is dependent upon a particular structure such as molecular side groups. For example, the hydrogen bonding between two single stranded nucleic acids or the binding between an epitope or a protein and an agonist, antagonist, or antibody.

"Sample" is used in its broadest sense. A sample containing polynucleotides may comprise a bodily fluid; an extract from a cell, chromosome, organelle, or membrane isolated from a cell; genomic DNA, RNA, or cDNA in solution or bound to a substrate; a cell; a tissue; a tissue print; a finger print, a hair, and the like.

"Portion" refers to any part of a protein used for any purpose, but especially for the screening

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of molecules or compounds the entify those which specifically bind to that perdon and for producing antibodies.

The phrase "polynucleotide encoding a protein" refers to nucleic acid sequence that closely aligns with a sequence which encodes a conserved protein motif or domain that were identified by employing analyses well known in the art. These analyses include Hidden Markov Models (HMMs) such as PFAM (Krogh (1994) J Mol Biol 235:1501-1531; Sonnhamer et al. (1988) Nucl Acids Res 26:320-322), BLAST (Basic Local Alignment Search Tool; Altschul (1993) J Mol Evol 36: 290-300; and Altschul et al. (1990) J Mol Biol 215:403-410), or other analytical tools such as BLIMPS (Henikoff et al. (1998) Nucl Acids Res 26:309-12). Additionally, "polynucleotide encoding a protein" may refer to a polynucleotide that is expressed in or associated with specific human metabolic processes, conditions, disorders, or diseases.

"Cell specific", as defined herein, refers to those polynucleotides which occur at a statistically significant level in more than one tissue. The commonality between the tissues may be ascribed to the types of cells that are an integral part of or would be expected to be found in a particular tissue, e.g., blood cells, nerve cells, endothelial cells, and the like.

#### The Invention

The present invention provides a plurality of tissue or cell specific polynucleotides which may be used on an array to produce an expression profile. This profile may define expression of these polynucleotides in normal tissue, during a particular metabolic or developmental process or during the 20 onset, progression, or treatment of a human condition, disease, or disorder. These polynucleotides represent known and novel genes normally expressed in the cells or tissues of the brain, heart, intestine, kidney, liver, lung, smooth muscle, ovary, pancreas, spleen, stomach, or uterus. The expression of these polynucleotides may be compared to the expression of other known or novel genes found on an array. The plurality of polynucleotides, the entire reference set, comprises SEQ ID NOs:1-416. Tissue 25 or cell-specific reference sets may be selected from SEQ ID NOs:209-218 and 1-10, cell specific polynucleotides of heart and fragments thereof; b) SEQ ID NOs:219-249 and 11-41, cell specific polynucleotides of skeletal muscle and fragments thereof; c) SEQ ID NOs:250-251 and 42-43, cell specific polynucleotides of uterus and fragments thereof; d) SEQ ID NOs:252-256 and 44-48, cell specific polynucleotides of ovary and fragments thereof; e) SEQ ID NOs:257-263 and 49-55, cell 30 specific polynucleotides of stomach and fragments thereof; f) SEQ ID NOs:264-283 and 56-75, cell specific polynucleotides of intestine and fragments thereof; g) SEQ ID NOs:284-293 and 76-85, cell specific polynucleotides of lung and fragments thereof; h) SEQ ID NOs:294-345 and 86-137, cell specific polynucleotides of liver and fragments thereof; i) SEQ ID NOs:346-356 and 138-148, cell specific polynucleotides of kidney and fragments thereof; j) SEQ ID NOs:357-374 and 149-166, cell 35 specific polynucleotides of pancreas and fragments thereof; and k) SEQ ID NOs:375-416 and 167-208,

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cell specific polynucleotides rain and fragments thereof. The plurality of ynucleotides is

arrayed on a substrate, preferably a microarray or used as probes.

The invention also provides a substantially purified polynucleotide selected from SEQ ID NOs:212, 228, 233, 259, 271, 287, 316-319, 324, 370, 379, 380, 383, 410, and 412 or a fragment 5 thereof, SEQ ID NO:4, 20, 25, 51, 63, 79, 108-111, 116, 162, 171, 172, 175, 202, and 204. These polynucleotides may be used in an expression vector transformed into a host cell to produce a protein or a portion thereof by culturing the host cell under conditions for the expression of protein and recovering the protein from the host cell culture.

The microarray can be used for large scale genetic or gene expression analysis of a large

number of novel target polynucleotides. These targets are prepared by methods well known in the art
and are from mammalian cells or tissues which are in a certain stage of development or differentiation;
have been treated with a known molecule or compound, such as a cytokine, growth factor, a drug, and
the like; or have been extracted or biopsied from a mammal with a known or unknown condition,
disorder, or disease before or after treatment. Specifically, the plurality of polynuleotides are useful to
determine the differentiation of embryonic stem cells toward brain, heart, kidney, liver, lung, muscle or
pancreatic tissues or to determine whether a cancer is metastatic or its source by analyzing biopsied
tissue from diseased brain, heart, kidney, liver, lung, muscle, ovarian, pancreatic, small intestine,
stomach, or uterine tissues. The plurality of polynucleotides may be used during the diagnosis of a
cancer, an immunopathology, a neuropathology, and the like.

The target polynucleotides are hybridized to the probe polynucleotides for the purpose of defining a novel gene profile associated with that developmental stage, treatment, condition, disorder or disease. Subsequently, the gene profile can be used for diagnosis, prognosis, or monitoring of treatments where altered expression of known and novel genes is associated with a cancer, an immunopathology, a neuropathology, and the like. In some cases, a gene profile can be used to investigate an individual's predisposition to a condition, disorder or disease such as a cancer, an immunopathology, a neuropathology, and the like.

When the polynucleotides of the invention are employed as hybridizable polynucleotides on a microarray, the polynucleotides are organized in an ordered fashion so that each polynucleotide is present at a specified location on the substrate. Because the probe polynucleotides are at specified locations on the substrate, their hybridization patterns and intensities can be compared with the hybridization patterns and intensities of other known and novel polynucleotides to create an expression profile. Such a profile, interpreted in terms of expression levels of the cell and tissue specific, known, and novel genes can be correlated with a particular metabolic process, developmental stage, treatment, condition, disorder, disease, or stage of disease.

The plurality of polynucleotides can also be used to identify or purify a molecule or compound

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which specifically binds to stone of the polynucleotides. These molecules and compounds including mRNAs, cDNAs, genomic fragments, and the like. Typically, the molecules or compounds will be of particular diagnostic or therapeutic interest.

If nucleic acid molecules in a sample enhance the hybridization background, it may be advantageous to remove the offending molecules. One method for removing such molecules is by hybridizing the sample with immobilized probe polynucleotides and washing away those molecules that do not form hybridization complexes. At a later point, hybridization complexes can be dissociated, thereby releasing those molecules which specifically bind the probe polynucleotides.

#### 10 Method for Selecting Polynucleotide Probes

There are numerous different ways to select polynucleotides. Some of the more common ones include selecting probes from genes which are well known in the literature to have an association with a particular condition, disorder, or disease, which have a common functional characteristic such as the presence of a particular motif or domain or a signal peptide, which are expressed in a particular cell type or tissue such as blood or bone marrow, and the like.

Preferably, the probes are non-redundant; therefore, no more than one probe represents a particular gene. Control sequences, however, may be selected specifically for their redundancy.

Polynucleotides of the composition may be manipulated to optimize their performance in hybridization technologies. Polynucleotide selection may be optimized by examining the sequences using a computer algorithm to identify fragments lacking potential secondary structure. Computer algorithms such as those employed in Vector NTI software (Informax, N. Bethesda MD) or LASERGENE software (DNASTAR, Madison WI) are well known in the art. These programs search nucleic acid sequences to identify stem loop structures and tandem repeats and to analyze G+C content of the sequence. In mammalian arrays, those sequences with a G+C content greater than 60% may be excluded. Alternatively, polynucleotides can be optimized under experimental conditions to determine whether polynucleotide probes and their complementary targets hybridize optimally.

Where the greatest numbers of non redundant polynucleotides are desired, the polynucleotides may be compared with clustered or assembled sequences to assure that each polynucleotide is derived from a different gene. To obtain a longer or different probe for a particular gene, the polynucleotide may be physically extended utilizing the partial nucleotide sequences derived from the Incyte clone and employing the XL-PCR kit (Applied Biosystems, Foster City CA) or other means known in the art.

Polynucleotide Probes

Polynucleotide probes can be genomic DNA or cDNA or mRNA, or any RNA-like or DNA-like material, such as peptide nucleic acids, branched DNAs and the like. They may be the sense or antisense strand. Where targets are double stranded, probes may be either sense or antisense

strands. Where targets are the stranded, probes are complementary single

In one embodiment, polynucleotide probes are cDNAs. The size of the cDNAs may vary and is preferably from 15 to 10,000 nucleotides, more preferably from 60 to 4000 nucleotides, and most preferably from 200-600 nucleotides.

In another embodiment, probes are plasmids. In this case, the cDNA sequence of interest is the insert sequence. Excluding the vector DNA and regulatory sequences, cDNA size may vary preferably from 15 to 10,000 nucleotides, more preferably from 60 to 4000 nucleotides, and most perferably from 200-600 nucleotides.

Polynucleotide probes can be prepared by a variety of synthetic or enzymatic methods well known in the art. Probes can be synthesized, in whole or in part, using chemical methods well known in the art (Caruthers et al. (1980) Nucleic Acids Symp Ser (7):215-233). Alternatively, probes can be produced enzymatically or recombinantly, by in vitro or in vivo transcription.

Nucleotide analogues can be incorporated into the probes by methods well known in the art.

The only requirement is that the incorporated nucleotide analogues of the probe must base pair with target nucleotides. For example, certain guanine nucleotides can be substituted with hypoxanthine which base pairs with cytosine residues. However, these base pairs are less stable than those between guanine and cytosine. Alternatively, adenine nucleotides can be substituted with 2,6-diaminopurine which can form stronger base pairs than those between adenine and thymidine.

Additionally, probes can include nucleotides that have been derivatized chemically or enzymatically. Typical chemical modifications include derivatization with acyl, alkyl, aryl or amino groups.

Probes can be synthesized on a substrate. Synthesis on the surface of a substrate may be accomplished using a chemical coupling procedure and a piezoelectric printing apparatus as described by Baldeschweiler et al. (PCT/WO95/251116). Alternatively, the probe can be synthesized on a substrate surface using a self-addressable electronic device that controls when reagents are added as described by Heller et al. (USPN 5,605,662).

Complementary DNA (cDNA) can be arranged and then immobilized on a substrate. Probes can be immobilized by covalent means such as by chemical bonding procedures or UV. In one such method, a cDNA is bound to a glass surface which has been modified to contain epoxide or aldehyde groups. In another case, a cDNA probe is placed on a polylysine coated surface and then UV cross-linked as described by Shalon et al. (PCT/WO95/35505; incorporated herein by reference). In yet another method, a DNA is actively transported from a solution to a given position on a substrate by electrical means (Heller et al. <a href="supra">supra</a>). Alternatively, probes, clones, plasmids or cells can be arranged on a filter. In the latter case, cells are lysed, proteins and cellular components degraded, and the DNA is coupled to the filter by UV cross-linking.

Furthermore, prob not have to be directly bound to the substract out rather can be bound to the substrate through a linker group. The linker groups are typically about 6 to 50 atoms long to provide exposure of the attached probe. Preferred linker groups include ethylene glycol oligomers, diamines, diacids and the like. Reactive groups on the substrate surface react with a terminal group of 5 the linker to bind the linker to the substrate. The other terminus of the linker is then bound to the probe.

Probes can be attached to a substrate by sequentially dispensing reagents for probe synthesis on the substrate surface or by dispensing preformed DNA fragments to the substrate surface. Typical dispensers include a micropipette delivering solution to the substrate with a robotic system to control the position of the micropipette with respect to the substrate. There can be a multiplicity of dispensers so that reagents can be delivered to the reaction regions efficiently.

### Sample Preparation

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In order to conduct sample analysis, a sample containing targets is provided. The samples can be any sample containing targets and obtained from any bodily fluid (blood, urine, saliva, phlegm, gastric juices, etc.), cultured cells, biopsies, or other tissue or forensic preparations.

DNA or RNA can be isolated from a sample according to any of a number of methods well known to those of skill in the art. For example, methods of purification of nucleic acids are described in Tijssen (1993) <u>Laboratory Techniques in Biochemistry and Molecular Biology: Hybridization With Nucleic Acid Probes, Part I. Theory and Nucleic Acid Preparation, Elsevier Science, New York NY).</u>

In one case, total RNA is isolated using TRIZOL reagent (Life Technologies, Goithershurg MD), and

- In one case, total RNA is isolated using TRIZOL reagent (Life Technologies, Gaithersburg MD), and mRNA is isolated using oligo d(T) column chromatography or glass beads. In one alternative, when targets are derived from an mRNA, targets can be a DNA reverse transcribed from an mRNA, an RNA transcribed from that DNA, a DNA amplified from that DNA, an RNA transcribed from the amplified DNA, and the like. When target is derived from DNA, target can be DNA amplified from DNA, or
- 25 RNA reverse transcribed from DNA. In yet another alternative, targets are prepared by more than one method.

When targets are amplified it is desirable to amplify the nucleic acids in the sample and to maintain their relative abundances, including low abundance transcripts. Total mRNA can be amplified by reverse transcription using a reverse transcriptase and a primer consisting of oligo d(T) and a sequence encoding the phage T7 promoter to provide a single stranded DNA template. The second DNA strand is polymerized using a DNA polymerase and an RNAse which assists in breaking up the DNA/RNA hybrid. After synthesis of the double stranded DNA, T7 RNA polymerase can be added, and RNA transcribed from the second DNA strand template as described by Van Gelder et al. (USPN 5,545,522). RNA can be amplified in vitro, in situ or in vivo (Eberwine, USPN 5,514,545).

It is also advantageous to include quantitation controls to assure that amplification and labeling

procedures do not change the abundance of transcripts in a sample. For any purpose, a sample is spiked with a known amount of control nucleic acid, and the probes include control probes which specifically hybridize with the control nucleic acid. After hybridization and processing, the hybridization signals should reflect accurately the amounts of control nucleic acid added to the sample.

Prior to hybridization, it may be desirable to fragment the nucleic acids of the sample. Fragmentation improves hybridization by minimizing secondary structure and cross-hybridization among the nucleic acids in the sample or with noncomplementary probes. Fragmentation can be performed by mechanical or chemical means.

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The nucleic acids may be labeled with one or more labeling moieties to allow for detection and quantitation of hybridization complexes. The labeling moieties can include compositions that can be detected by spectroscopic, photochemical, biochemical, bioelectronic, immunochemical, electrical, optical or chemical means. The labeling moieties include radioisotopes, such as <sup>32</sup>P, <sup>33</sup>P or <sup>35</sup>S; chemiluminescent compounds, labeled binding proteins, heavy metal atoms, spectroscopic markers such as fluorescent markers and dyes; magnetic labels, linked enzymes, mass spectrometry tags, spin labels, lectron transfer donors and acceptors, and the like.

Exemplary dyes include quinoline dyes, triarylmethane dyes, phthaleins, azo dyes, cyanine dyes, and the like. Preferably, fluorescent markers absorb light above about 300 nm, more preferably above 400 nm, and usually emit light at wavelengths at least greater than 10 nm above the wavelength of the light absorbed. Preferred fluorescent markers include fluorescein, phycoerythrin, rhodamine, 20 lissamine, and Cy3 and Cy5.

Labeling can be carried out during an amplification reaction, such as polymerase chain and in vitro transcription reactions; by nick translation, or by 5' or 3'-end-labeling reactions. In one case, labeled nucleotides are used in an in vitro transcription reaction. When the label is incorporated after or without an amplification step, the label is incorporated either by using a terminal transferase or a kinase on the 5' end of the target polynucleotide and then incubating overnight with a labeled oligonucleotide in the presence of T4 RNA ligase.

Alternatively, the labeling moiety can be incorporated after hybridization once a probe/target complex has formed. In one case, biotin is first incorporated during an amplification step as described above. After the hybridization reaction, unbound nucleic acids are rinsed away so that the only biotin remaining bound to the substrate is that attached to targets that are hybridized to probes. Then, an avidin-conjugated fluorophore, such as avidin-phycoerythrin, that binds with high affinity to biotin is added. In another case, the labeling moiety is incorporated by intercalation into preformed target/probe complexes. In this case, an intercalating dye such as a psoralen-linked dye can be employed.

Screening Assays

Probes or polynucleotides may be used to screen a library of molecules or compounds for

specific binding affinity. The braries may be DNA molecules, RNA molecules, PNAs, peptides, proteins such as transcription factors, enhancers, repressors, and other organic or inorganic ligands which regulate activities such as replication, transcription, or translation of polynucleotides in the biological system. The assay involves combining the probe with the library of molecules or compounds under conditions that allow specific binding, and detecting specific binding to a ligand which

Similarly, a protein or a portion thereof transcribed and translated from a probe may be used to screen libraries of molecules or compounds in any of a variety of screening assays. The protein or portion thereof may be free in solution, affixed to an abiotic or biotic substrate, borne on a cell surface, or located intracellularly. Specific binding between the protein and a ligand may be measured.

Depending on the kind of library being screened, the assay may be used to identify DNA, RNA, or PNAs, agonists, antagonists, antibodies, immunoglobulins, inhibitors, mimetics, peptides, proteins, drugs, or any other ligand, that specifically binds the protein.

#### Purification of Ligand

specifically binds the probe.

Probes may be used to purify a ligand from a sample. A method for using a probe to purify a ligand would involve combining the probe with a sample under conditions to allow specific binding, detecting specific binding, recovering the bound protein, and using an appropriate agent to separate the polynucleotide from the purified ligand.

Similarly, the encoded protein or a portion thereof may be used to purify a ligand from a sample. A method for using a protein or a portion thereof to purify a ligand would involve combining the protein or a portion thereof with a sample under conditions to allow specific binding, detecting specific binding between the protein and ligand, recovering the bound protein, and using an appropriate agent to separate the protein from the purified ligand.

#### Hybridization and Detection

Hybridization causes a denatured polynucleotide probe and a denatured complementary target to form a stable duplex through base pairing. Hybridization methods are well known to those skilled in the art. (See Ausubel, supra, units 2.8-2.11, 3.18-3.19 and 4.6-4.9.) Conditions can be selected for hybridization where completely complementary probe and target can hybridize, i.e., each base pair must interact with its complementary base pair. Alternatively, conditions can be selected where probe and target have mismatches of up to about 10% but are still able to hybridize. Suitable conditions can be selected by varying the concentrations of salt in the prehybridization, hybridization, and wash solutions or by varying the hybridization and wash temperatures. With some substrates, temperature can be decreased by adding formamide to the prehybridization and hybridization solutions.

Hybridization can be performed at low stringency with buffers, such as 5xSSC with 1% sodium dodecyl sulfate (SDS) at 60°C, which permits hybridization between probe and target

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sequences that contain some sematches to form probe/target complexes. Shesequent washes are performed at higher stringency with buffers such as 0.2xSSC with 0.1% SDS at either 45°C (medium stringency) or 68°C (high stringency), to maintain hybridization of only those probe/target complexes that contain completely complementary sequences. Background signals can be reduced by the use of detergents such as SDS, Sarcosyl, or TRITON X-100 (Sigma-Aldrich, St. Louis MO) or a blocking agent, such as salmon sperm DNA.

Hybridization specificity can be evaluated by comparing the hybridization of control probe to target sequences that are added to a sample in a known amount. The control probe may have one or more sequence mismatches compared with the corresponding target. In this manner, it is possible to evaluate whether only complementary probes are hybridizing to the targets or whether mismatched hybrid duplexes are forming.

Hybridization reactions can be performed in absolute or differential hybridization formats. In the absolute hybridization format, probes from one sample are hybridized to microarray probes, and signals detected after hybridization complexes form. Signal strength correlates with probe levels in a sample. In the differential hybridization format, differential expression of a set of genes in two biological samples is analyzed. Probes from the two samples are prepared and labeled with different labeling moieties. A mixture of the two labeled targets is hybridized to the microarray probes, and signals are examined under conditions in which the emissions from the two different labels are individually detectable. Targets in the microarray that are hybridized to substantially equal numbers of probes derived from both biological samples give a distinct combined fluorescence (Shalon, PCT/WO95/35505). In a preferred embodiment, the labels are fluorescent labels with distinguishable emission spectra, such as a lissamine conjugated nucleotide analog and a fluorescein conjugated nucleotide analog. In another embodiment Cy3 and Cy5 fluorophores (Amersham Pharmacia Biotech, Piscataway NJ) are employed.

After hybridization, the microarray is washed to remove nonhybridized polynucleotides, and complex formation between the hybridizable array probes and the targets is examined. Methods for detecting complex formation are well known to those skilled in the art. In a preferred embodiment, the probes are labeled with a fluorescent label, and measurement of levels and patterns of fluorescence indicative of complex formation is accomplished by fluorescence microscopy, preferably confocal fluorescence microscopy. An argon ion laser excites the fluorescent label, emissions are directed to a photomultiplier, and the amount of emitted light is detected and quantitated. The detected signal should be proportional to the amount of probe/target complexes at each position of the microarray. The fluorescence microscope can be associated with a computer-driven scanner device to generate a quantitative two-dimensional image of hybridization intensity. The scanned image is examined to determine the abundance/expression level of hybridized probe.

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Typically microar successance intensities can be normalized to intensities assessed as intensities as the normalized to intensities as the normalized to

Typically, microard uorescence intensities can be normalized to into account variations in hybridization intensities when more than one microarray is used under similar test conditions. In a preferred embodiment, individual polynucleotide probe/target complex hybridization intensities are normalized using the intensities derived from internal normalization controls contained on each 5 microarray.

#### **Expression Profiles**

This section describes an expression profile using the polynucleotides of this invention. The reference set can be used as part of a expression profile which detects changes in the expression of novel genes whose transcripts are modulated in a particular metabolic response, treatment, condition, disorder, or disease. These genes will include genes whose altered expression is correlated with a cancer, an immunopathology, a neuropathology, and the like.

The expression profile comprises a plurality of detectable hybridization complexes. Each complex is formed by hybridization of one or more probes to one or more complementary targets. At least one of the probes, preferably a plurality of probes, is hybridized to a complementary target forming, at least one and preferably, a plurality of complexes. A complex is detected by incorporating at least one labeling moiety. The expression profiles provide "snapshots" that can show unique expression patterns that are characteristic of a metabolic process, treatment, condition, disorder or disease.

After performing hybridization experiments and detecting signals from a microarray, particular probes can be identified and selected based on their expression patterns. Such probes can be used to clone a full length sequence for the gene, to screen a library for a closely related homolog, to screen for or purify ligands, or to produce a protein.

### Utility of the Invention

The plurality of polynucleotides can be used as hybridizable elements in a microarray. Such a microarray can be employed in several applications including diagnostics, prognostics and treatment regimens, and drug discovery and development for conditions, disorders, and diseases such as cancer, an immunopathology, a neuropathology and the like.

#### **Expression Profiles**

In one situation, the microarray is used to monitor the progression of disease. The differences in gene expression between healthy and diseased tissues or cells can be assessed and cataloged. By analyzing changes in patterns of gene expression, disease can be diagnosed at earlier stages before the patient is symptomatic. The invention can be used to formulate a prognosis and to design a treatment regimen. The invention can also be used to monitor the efficacy of treatment. For treatments with known side effects, the microarray is employed to "fine tune" the treatment regimen. A dosage is established that causes a change in genetic expression patterns indicative of successful treatment.

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Expression patterns associated with the onset of undesirable side effects are avoided. This approach may be more sensitive and rapid than waiting for the patient to show inadequate improvement, or to manifest side effects, before altering the course of treatment.

Alternatively, animal models which mimic a human disease can be used to characterize

5 expression profiles associated with a particular condition, disorder or disease or the treatment of the condition, disorder or disease. Experimental treatment regimens may be tested in these animal models using microarrays to establish and then follow expression profiles over time. In addition, microarrays may be used with cell cultures or tissues removed from animal models to rapidly screen large numbers of candidate drug molecules, looking for ones that produce an expression profile similar to those of known therapeutic drugs, with the expectation that molecules with the same expression profile will likely have similar therapeutic effects. Thus, the invention provides the means to rapidly determine the molecular mode of action of a drug.

# **Embryonic Stem Cells**

Embryonic (ES) stem cells isolated from rodent or human embryos retain the potential to form

15 embryonic tissues. When ES cells such as the mouse 129/SvJ cell line are placed in a blastocyst from
the C57BL/6 mouse strain, they resume normal development and contribute to tissues of the live-born
animal. ES cells are preferred for use in the creation of experimental knockout and knockin animals.

In mice, the method for this process is well known in the art and the steps are: the cDNA is introduced
into a vector, the vector is transformed into ES cells, transformed cells are identified and microinjected
20 into mouse cell blastocysts, blastocysts are surgically transferred to pseudopregnant dams. The
resulting chimeric progeny are genotyped and bred to produce heterozygous or homozygous strains.

ES cells are also used for the treatment of victims of Parkinson's disease, stroke, and other neuropathologies (The Scientist, 14(18):1ff; September 2000). Pharmaceutical companies are also targeting disorders of the liver, kidney, and pancreas, specifically alpha-1 antitrypsin, polycystic kidney disease, and diabetes, respectively. In time, traumatic damage to the nervous system and internal organs may also be treated by transplantation of cells or organs which are differentiated from embryonic stem cells. The present invention may be used to characterize the developmental pathways of the differentiation processes that give rise to brain, heart, kidney, liver, lung, muscle, ovarian, pancreatic, small intestine, stomach, or uterine tissues.

# 30 Knockout Analysis

In gene knockout analysis, a region of a gene is enzymatically modified to include a non-natural intervening sequence such as the neomycin phosphotransferase gene (neo; Capecchi (1989) Science 244:1288-1292). The modified gene is transformed into cultured ES cells and integrates into the endogenous genome by homologous recombination. The inserted sequence disrupts transcription and translation of the endogenous gene.

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# Knockin Analysis

ES cells can be used to create knockin humanized animals or transgenic animal models of human diseases. With knockin technology, a region of a human gene is injected into animal ES cells, and the human sequence integrates into the animal cell genome. Transgenic progeny or inbred lines are studied and treated with potential pharmaceutical agents to obtain information on the progression and treatment of the analogous human condition.

As described herein, the uses of the cDNAs, provided in the Sequence Listing of this application, and their encoded proteins are exemplary of known techniques and are not intended to reflect any limitation on their use in any technique that would be known to the person of average skill in the art. Furthermore, the cDNAs provided in this application may be used in molecular biology techniques that have not yet been developed, provided the new techniques rely on properties of nucleotide sequences that are currently known to the person of ordinary skill in the art, e.g., the triplet genetic code, specific base pair interactions, and the like. Likewise, reference to a method may include combining more than one method for obtaining, assembling or expressing cDNAs that will be known to those skilled in the art. It is also to be understood that this invention is not limited to the particular methodology, protocols, and reagents described, as these may vary. It is also understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention which will be limited only by the appended claims. The examples below are provided to illustrate the subject invention and are not included for the purpose of limiting the invention.

### **EXAMPLES**

For purposes of example, the preparation and sequencing of the BRAINON01 cDNA library is described. Preparation and sequencing of other cDNAs in libraries in the LIFESEQ database (Incyte Genomics) have varied over time, and the gradual changes involved use of kits, plasmids, and machinery available at the particular time the library was made and analyzed.

# I cDNA Library Construction

The BRAINON01 normalized cDNA library was constructed from cancerous brain tissue obtained from a 26-year-old Caucasian male during cerebral meningeal excision following diagnosis of grade 4 oligoastrocytoma localized in the right fronto-parietal part of the brain. The tumor had been irradiated (5800 rads). Patient history included hemiplegia, epilepsy, ptosis of eyelid, and common migraine, and medications included Dilantin® (Parke-Davis, Morris Plains NJ).

The frozen tissue was homogenized and lysed using a POLYTRON homogenizer (PT-3000;
Brinkmann Instruments, Westbury NY) in guanidinium isothiocyanate solution. The lysate was
extracted with acid phenol, pH 4.7, per Stratagene RNA isolation protocol (Stratagene, San Diego
CA). The RNA was extracted with an equal volume of acid phenol, reprecipitated using 0.3 M sodium

acetate and 2.5 volumes of Chol, resuspended in DEPC-treated water, and reated with DNase for 25 min at 37°C. The RNA extraction was repeated with phenol, pH 8.7, and precipitated with sodium acetate and ethanol as before. The mRNA was isolated with the OLIGOTEX kit (Qiagen, Chatsworth CA) and used to construct the cDNA library.

The mRNA was handled according to the recommended protocols in the SUPERSCRIPT plasmid system (Life Technologies). cDNAs were fractionated on a SEPHAROSE CL4B column (Amersham Pharmacia Biotech), and those cDNAs exceeding 400 bp were ligated into PSPORT I plasmid (Life Technologies). The plasmid was transformed into DH5α competent cells (Life Technologies) to construct the BRAINOT03 library.

# 10 II Normalization of the cDNA Library

4.9 x 10<sup>6</sup> independent clones of the BRAINOT03 library were grown in liquid culture under carbenicillin (25mg/L) and methicillin (1mg/ml) selection following transformation by electroporation into DH12S competent cells (Life Technologies). The culture was monitored using a DU-7 spectrophotometer (Beckman Coulter, Fullerton CA) until it reached an OD600 of 0.2, and then
 superinfected with a 5-fold excess of the helper phage M13K07 (Vieira et al. (1987) Methods Enzymol 153:3-11).

To reduce the number of highly expressed cDNAs, the library was normalized in a single round according to the procedure of Soares et al. (1994, Proc Natl Acad Sci 91:9928-9932) with the following modifications: 1) the primer to template ratio in the primer extension reaction was increased from 2:1 to 10:1, 2) the ddNTP concentration was reduced to 150µM to allow generation of longer (400-1000nt) primer extension products, and 3) the reannealing hybridization was extended from 13 to 48 hours. After the single stranded DNA circles were purified by hydroxyapatite chromatography and converted to partially double-stranded by random priming, the cDNAs were electroporated into DH10B competent bacteria (Life Technologies) to construct the BRAINON01 normalized library.

#### 25 III Isolation and Sequencing of cDNA Clones

Plasmid DNA was released from bacterial cells and purified using the REAL Prep 96 plasmid kit (Qiagen). This kit enabled the simultaneous purification of 96 samples in a 96-well block using multi-channel reagent dispensers. The recommended protocol was employed except for the following changes: 1) the bacteria were cultured in 1 ml of sterile TERRIFIC BROTH (BD Biosciences, Sparks MD) with carbenicillin at 25 mg/L and glycerol at 0.4%; 2) the cultures were inoculated, incubated for 19 hours, and then lysed with 0.3 ml of lysis buffer; and 3) following isopropanol precipitation, the plasmid DNA pellet was resuspended in 0.1 ml of distilled water.

The cDNAs were prepared using a MICROLAB 2200 system (Hamilton, Reno NV) in combination with DNA ENGINE thermal cyclers (PTC200; MJ Research, Waltham MA). The cDNAs were sequenced by the method of Sanger and Coulson (1975; J Mol Biol 94:441f) using ABI

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PRISM 377 DNA sequence systems (Applied Biosystems). Most of the sequences were sequenced using standard ABI protocols and kits (Applied Biosystems) at solution volumes of 0.25x - 1.0x. In the alternative, some of the sequences were sequenced using solutions and dyes from Amersham Pharmacia Biotech.

5

# IV Selection of Sequences for the Microarray

Incyte clones were mapped to non-redundant Unigene clusters (Unigene database (build 46), NCBI; Shuler (1997) J Mol Med 75:694-698), and the 5' clone with the strongest BLAST alignment (at least 90% identity and 100 bp overlap) was chosen, verified, and used in the construction of the microarray. The UNIGEM V microarray (Incyte Genomics) contains 7075 array elements which represent 4610 annotated genes and 2,184 unannotated clusters. Table 1 shows the GenBank 119 annotations for SEQ ID NOs:1-416 of this invention as produced by BLAST analysis.

# V Homology Searching of Polynucleotides and Proteins

BLAST involves finding similar segments between the query sequence and a database

15 sequence, evaluating the statistical significance of any similarities, and reporting only those matches that satisfy a user-selectable threshold of significance. BLAST produces alignments of both nucleotide and amino acid sequences to determine sequence similarity.

The fundamental unit of the analysis is the High scoring Segment Pair (HSP). An HSP consists of two sequence fragments of arbitrary, but equal lengths, whose alignment is locally maximal and for which the alignment score meets or exceeds threshold of significance set by the user.

The basis of the search is the product score, which is defined as:

# % sequence identity x % maximum BLAST score 100

The product score takes into account both the degree of identity between two sequences and the length of the sequence match as reflected in the BLAST score. The BLAST score is calculated by scoring +5 for every base that matches in an HSP and -4 for every mismatch. For a product score of 40, the match will be exact within a 1% to 2% error and for a product score of 70, the match will be exact. Homologous molecules usually show product scores between 15 and 40, although lower scores may identify related molecules. The P-value for any given HSP is a function of its expected frequency of occurrence and the number of HSPs observed against the same database sequence with scores at least as high.

Percent sequence identity is found in a comparison of two or more amino acid or nucleic acid sequences. Percent identity can be determined electronically using the MEGALIGN program, a component of LASERGENE software (DNASTAR). The percent similarity between two amino acid sequences is calculated by dividing the length of sequence A, minus the number of gap residues in

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sequence A, minus the number of gap residues in sequence B, into the sum of the residue matches between sequence A and sequence B, times one hundred. Gaps of low or of no homology between the two amino acid sequences are not included in determining percentage similarity.

Sequences with conserved protein motifs may be searched using the BLOCKS search program.

5 This program analyses sequence information contained in the Swiss-Prot and PROSITE databases and is useful for determining the classification of uncharacterized proteins translated from genomic or cDNA sequences (Bairoch et al. (1997) Nucleic Acids Res 25:217-221; Attwood et al. (1997) J Chem Inf Comput Sci 37:417-424). PROSITE database is a useful source for identifying functional or structural domains that are not detected using motifs due to extreme sequence divergence. Using weight matrices, these domains are calibrated against the SWISS-PROT database to obtain a measure of the chance distribution of the matches.

The PRINTS database can be searched using the BLIMPS search program to obtain protein family "fingerprints". The PRINTS database complements the PROSITE database by exploiting groups of conserved motifs within sequence alignments to build characteristic signatures of different protein families. For both BLOCKS and PRINTS analyses, the cutoff scores for local similarity were: >1300=strong, 1000-1300=suggestive; for global similarity were: p<exp-3; and for strength (degree of correlation) were: >1300=strong, 1000-1300=weak.

#### VI Extension of cDNA Clones

Some of the nucleic acid sequences of the Sequence Listing, designed F, R, or T, were produced by extension of an appropriate fragment of the original clone insert using oligonucleotide primers designed from this fragment. One primer was synthesized to initiate 5' extension of the known sequence, and the other primer, to initiate 3' extension of the known sequence. The initial primers were designed using OLIGO software (Molecular Insights, Cascade CO), or another appropriate program, to be about 22 to 30 nucleotides in length, to have a GC content of about 50% or more, and to anneal to the target sequence at temperatures of about 68°C to about 72°C. Any stretch of nucleotides which would result in hairpin structures and primer-primer dimerizations was avoided.

Selected human cDNA libraries were used to extend the sequence. If more than one extension was necessary or desired, additional or nested sets of primers were designed.

High fidelity amplification was obtained by PCR using methods well known in the art. PCR was performed in 96-well plates using the DNA ENGINE thermal cycler (MJ Research). The reaction mix contained DNA template, 200 nmol of each primer, reaction buffer containing Mg<sup>2+</sup>, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, and β-mercaptoethanol, Taq DNA polymerase (Amersham Pharmacia Biotech), ELONGASE enzyme (Life Technologies), and Pfu DNA polymerase (Stratagene), with the following parameters for primer pair PCI A and PCI B: Step 1: 94°C, 3 min; Step 2: 94°C, 15 sec; Step 3: 60°C, 1 min; Step 4: 68°C, 2 min; Step 5: Steps 2, 3, and 4 repeated 20 times; Step 6: 68°C, 5 min; Step 7: storage at 4°C. In the

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alternative, the parameters

rimer pair T7 and SK+ were as follows: St

94°C, 3 min; Step 2:

94°C, 15 sec; Step 3: 57°C, 1 min; Step 4: 68°C, 2 min; Step 5: Steps 2, 3, and 4 repeated 20 times;

Step 6: 68°C, 5 min; Step 7: storage at 4°C.

The concentration of DNA in each well was determined by dispensing 100  $\mu$ l PICOGREEN 5 reagent (0.25% v/v PICOGREEN (Molecular Probes, Eugene OR) dissolved in 1x TE) and 0.5  $\mu$ l of undiluted PCR product into each well of an opaque fluorimeter plate (Corning Costar, Acton MA), allowing the DNA to bind to the reagent. The plate was scanned in a Fluoroskan II (Labsystems Oy, Helsinki FI) to measure the fluorescence of the sample and to quantify the concentration of DNA. A 5  $\mu$ l to 10  $\mu$ l aliquot of the reaction mixture was analyzed by electrophoresis on a 1 % agarose minigel to determine which reactions were successful in extending the sequence.

The extended nucleotides were desalted and concentrated, transferred to 384-well plates, digested with CviJI cholera virus endonuclease (Molecular Biology Research, Madison WI), and sonicated or sheared prior to religation into pUC 18 vector (Amersham Pharmacia Biotech). For shotgun sequencing, the digested nucleotides were separated on 0.6% to 0.8% agarose gels, fragments were excised, and agar digested with AGARACE (Promega). Extended clones were religated using T4 ligase (New England Biolabs, Beverly MA) into pUC 18 vector (Amersham Pharmacia Biotech), treated with Pfu DNA polymerase (Stratagene) to fill-in restriction site overhangs, and transfected into competent <u>E</u>. <u>coli</u> cells. Transformed cells were selected on antibiotic-containing media, and individual colonies were picked and cultured overnight at 37°C in 384-well plates in LB/2x carbenicillin liquid media.

The cells were lysed, and DNA was amplified using Taq DNA polymerase (Amersham Pharmacia Biotech) and Pfu DNA polymerase (Stratagene) with the following parameters: Step 1: 94°C, 3 min; Step 2: 94°C, 15 sec; Step 3: 60°C, 1 min; Step 4: 72°C, 2 min; Step 5: steps 2, 3, and 4 repeated 29 times; Step 6: 72°C, 5 min; Step 7: storage at 4°C. DNA was quantified by PICOGREEN reagent (Molecular Probes) as described above. Samples with low DNA recoveries were reamplified using the conditions described above. Samples were diluted with 20% dimethysulphoxide (1:2 v/v), and sequenced using DYENAMIC energy transfer sequencing primers and the DYENAMIC DIRECT kit (Amersham Pharmacia Biotech) or the ABI PRISM BIGDYE terminator kit (Applied Biosystems).

# VII mRNA for Target Polynucleotides

The mRNAs or tissues for preparing target polynucleotides were obtained from Biochain Institute (San Leandro CA), International Institute for Advanced Medicine (Exeter PA), and Oncormed (Gaithersburg MD). RNA was extracted from tissue samples using the extraction protocol and purification procedures described above.

VIII Microarray Preparation, Labeling of Targets, and Hybridization Analyses

#### 35 Substrate Preparation

Probe polynucleotides were amplified from bacterial vectors by thirty cycles of PCR using

PCT/US00/30396 primers complementary to vector sequences flanking the insert and purified using SEPHACRYL-400 beads (Amersham Pharmacia Biotech). Purified polynucleotides were robotically arrayed onto a glass microscope slide (Corning Science Products, Corning NY) previously coated with 0.05% aminopropyl silane (Sigma-Aldrich) and cured at 110°C. The microarray was exposed to UV irradiation in a 5 STRATALINKER UV-crosslinker (Stratagene).

#### **Target Preparation**

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Each mRNA sample, shown in Table 2, was reverse transcribed using MMLV reverse transcriptase in the presence of dCTP-Cy3 or dCTP-Cy5 (Amersham Pharmacia Biotech) according to standard protocol. After incubation at 37°C, the reaction was stopped with 0.5 M sodium hydroxide, 10 and RNA was degraded at 85°C. The target polynucleotides were purified using CHROMASPIN 30 columns (Clontech, Palo Alto CA) and ethanol precipitation.

#### **Hybridization**

The hybridization mixture, containing 0.2 mg of each of the Cy3 and Cy5 labeled target polynucleotides, was heated to 65°C, and dispensed onto the UNIGEM V microarray (Incyte Genomics) 15 surface. The microarray was covered with a coverslip and incubated at 60°C C. The microarrays were sequentially washed at 45°C in moderate stringency buffer (1xSSC and 0.1% SDS) and high stringency buffer (0.1xSSC) and dried.

#### Detection

A confocal laser microscope was used to detect the fluorescence-labeled hybridization 20 complexes. Excitation wavelengths were 488 nm for Cy3 and 632 nm for Cy5. Each array was scanned twice, one scan per fluorophore. The emission maxima was 565 nm for Cy3 and 650 nm for Cy5. The emitted light was split into two photomultiplier tube detectors based on wavelength. The output of the photomultiplier tube was digitized and displayed as an image, where the signal intensity was represented using a linear 20 color transformation, with red representing a high signal and blue a low signal. The 25 fluorescence signal for each probe was integrated to obtain a numerical value corresponding to the signal intensity using GEMTOOLS expression analysis software (Incyte Genomics).

#### IX **Data Analysis and Results**

Out of the 7075 genes present on UNIGEM V, 3627 genes or 51 % were expressed at a significant level across all 30 tissue samples. Significance was defined as signal to background ratio 30 exceeding 2.5 and area hybridization exceeding 40% for both probes. All data was transformed so that differential gene expression values were Log base 2 scale.

#### **Analysis of Variance**

For each gene, an ANOVA test was run using the tissue categories as the grouping variable. The ANOVA tested whether measurements across samples belonging to known categories were 35 associated with those categories. ANOVA compares the Variance between (Vb) categories to the Variance within (Vw) categories. The ratio of Vb divided by Vw (F ratio) was compared to the F

distribution for a population equal degree of freedom (DF) and the probay of the F ratio was returned.

#### Anova Computation

5

$$F = \frac{Vbetween}{Vwithin} \qquad Vwithin = \frac{\sum_{i} (X_i - \overline{X_G})^2}{(N - k)} \qquad Vbetween = \frac{\sum_{G} N_G (\overline{X_G} - \overline{X_T})^2}{(k - 1)}$$

DF = (N-k)\*(k-1)

X: Individual value

N<sub>G</sub>: Number of Individuals in Category

X,: Population Mean

Xo: Category Mean

N: Number of Individuals

k: Number of Categories

The null hypothesis states that if the measurement variations between samples are due to chance only, the variance within categories and variance between categories should be the same.

10 Therefore, in the absence of any significant association between gene expression and tissue categories, the probability returned by ANOVA is equal to 1. Reciprocally, a strong association between gene expression and tissue categories implies that the variance between samples is significantly greater than the variance within categories, and therefore the probability returned by ANOVA is small.

The data for the 340 genes shown in Table 3 was used to produce Table 4 which shows that each gene 15 selected for annotation scored an ANOVA probability equal or below 10<sup>-5</sup>.

### **Gene Annotation**

Since selection criterion imposed that the variances of measurement within tissue categories were small (see above), it was acceptable to summarize these measurements as the average of the measurements within each tissue category. Furthermore, in order to emphasize differences between 20 tissue categories for each gene, the differences between tissue averages and all-tissues average were computed; formula and values are shown in Table 5.

Using these differential average values, genes were associated with a primary tissue category according to the highest differential average value. A minimum differential average value of 1.5 was required to associate a gene with a tissue category. When possible, genes were associated with a 25 secondary, tertiary, and even quaternary tissue category according to the second, third, and fourth highest differential average values, respectively.

#### X Screening Molecules for Specific Binding with the Polynucleotide or Protein

The polynucleotide or fragments thereof and the protein or portions thereof are labeled with <sup>32</sup>P-dCTP, Cy3-dCTP, Cy5-dCTP (Amersham Pharmacia Biotech), or BIODIPY or FITC (Molecular 30 Probes), respectively. Candidate molecules or compounds previously arranged on a substrate are incubated in the presence of labeled nucleic or amino acid. After incubation under conditions for either a WO 01/32927 PCT/US00/30396

polynucleotide or protein, the abstrate is washed, and any position on the steafrate retaining label, which indicates specific binding or complex formation, is assayed. The binding molecule is identified by its arrayed position on the substrate. Data obtained using different concentrations of the nucleic acid or protein are used to calculate affinity between the labeled nucleic acid or protein and the bound molecule.

5 High throughput screening using very small assay volumes and very small amounts of test compound is fully described in Burbaum et al. USPN 5,876,946.

All patents and publications mentioned in the specification are incorporated herein by reference. Various modifications and variations of the described method and system of the invention will be apparent to those skilled in the art without departing from the scope and spirit of the invention.

Although the invention has been described in connection with specific preferred embodiments, it should be understood that the invention as claimed should not be unduly limited to such specific embodiments. Indeed, various modifications of the described modes for carrying out the invention that are obvious to those skilled in the field of molecular biology or related fields are intended to be within the scope of the following claims.

# TABLE

	277	CDINA	1 ISSUE	Description of Genbank Homolog
2380381	506	1345551CB1	heart	g602702 mitochondrial 2,4-dienoyl-CoA
1618422	210	1618422.con	heart	g285990 mRNA for KIAK0002 gene
2672064	211	4646418CB1	heart	g1399027 cysteine rich prot 2
608361	212	608361.con	heart	g6808282 mRNA; cDNA DKFZp58600221
1922596	213	2483470CB1	heart	g3452378 glutamate oxaloacetate transaminase, exon 9
1850033	214	1850033CB1	heart	g189010 HUMMLC2At
286986	215	3030106CB1	heart	g809558 mRNA for cardiac myosin bindin
718807	216	718807.con	heart	g1526977 mRNA for ryanodine receptor 2
2880435	217	2880435.con	heart	g1841371 MURR1 mRNA
187326	218	187326.con	heart	g4071059 TNNI3
3208425	219	3208425.con	skel muscle	g28596 aldolase A
1668474	220	1668474.con	skel muscle	g178645 erythroid ankyrin mRNA
1622542	221	1622542.con	skel muscle	g3882276 mRNA for KIAA0778 protein
4014318	222	4014318.con	skel muscle	g306472 DHP-sensitive calcium channel
2394888	223	1485879CB1	skel muscle	g791039 mRNA for skeletal muscle-specific calpain
1345550	224	2637261CB1	skel muscle	g179787 carbonic anhydrase III
1719955	225	1719955.con	skel muscle	g34788 mRNA for muscle specific enolase
2256026	226	2256026.con	skel muscle	g1021572 CpG island DNA genomic Mse1 fragment
1538086	227	2501821CB1	skel muscle	g1212945 mRNA for guanidinoacetateN-methyltransferase
958633	228	1532783CB1	skel muscle	g7297634 CG5676 gene product
2635943	229	3013501CB1	skel muscle	g3153910 muscle glycogen phosphorylase
121888	230	3405838CB1	skel musclc	g4808812 myosin heavy chain IIa
1627492	231	1627492.con	skel muscle	g3127082 FIP2 alternatively translated mRNA
4073867	232	3354111CB1	skel muscle	g4426911 phytanoil-CoA alpha hydroxylase
2190170	233	1866437CB1	skel muscle	g5759308 putative glialblastoma cell differentiation-related protein
972224	234	972224.con	skel muscle	g1220345 myosin light chain 2
1413644	235	1413644CB1	skel muscle	g409928 adenylyl cyclase-associated prot (CAP2)
1538224	236	1538224.con	skel muscle	g439602 Rad mRNA
2623268	237	2623268.con	skel muscle	g6523810 FEZ2 protein
1665533	238	1665533.con	skel muscle	g1620035 XIB mRNA, complete cds
981484	239	981484CB1	skel muscle	g34837 MYF6 for muscle determination factor
073670	240	072670 222	1	

# [ABLE]

SEQ ID	cDNA	SEQ ID	cDNA	Tissue	Description of GenBank Homolog
33	1539638	241	1539638CB1	skel muscle	g188582 myosin light chain 1 slow a
34	3015758	242	3010791CB1	skel muscle	g402646 mRNA for fast MyBP-C
35	2832314	243	2832314.con	skel muscle	g338826 TCB gene encoding cytosolic thyroid hormone-binding protein
36	1702996	244	912973CB1	skel muscle	g180621 cytoplasmic linker protein-170 alpha 2
37	839947	245	122365CB1	skel muscle	g337721 ryanodine receptor mRNA
38	1867522	246	974936CB1	skel muscle	g1943766 sarcolipin
39	1987831	247	1987831.con	skel muscle	g180708 calcineurin A2
\$	2639708	248	1642009CB1	skel muscle	g339964 slow-twitch skeletal troponin I
4	973815	249	2148260CB1	skel muscle	g546020 troponin T
42	2079906	250	1852756CB1	Uterus	g190153 replication factor C
43	2852042	251	2852042.con	Uterus	g181070 cysteine-rich peptide mRNA
4	2368282	252	2665890CB1	Ovary	g181375 cholesterol side-chain cleavage
45	2831248	253	2831248.con	Ovary	g32344 gene for heterogeneous RNP
46	182802	254	182802.con	Ovary	g257052 3 beta-hydroxysteroid dehydrogenase
41	1003884	255	1520287CB1	Ovary	g186836 laminin B1 chain
48	1120	256	1120.con	Ovary	g35902 mRNA for ribosomal protein L7
49	1285380	257	1516165CB1	Stomach	g7339519 mRNA for procathepsin E
20	1636639	258	1636639.con	Stomach	g3005731 clonc 24747 mRNA sequence
51	1985870	259	1985870.con	Stomach	g8346840 partial LGALS9 gene for galectin 9 exons
22	1677936	260	3665933CB1	Stomach	g31771 mRNA for gastric lipase
23	910612	791	910612.con	Stomach	g38068 Japanese macaque pepsinogen A-2/3
24	2594407	262	807530CB1	Stomach	g1658285 gastricsin mRNA
55	963236	263	963536.con	Stomach	g35706 pS2 mRNA induced by estrogen
26	434377	264	434377.con	Intestine	g599833 VE-cadhcrin mRNA
2.2	2121863	265	2121863.con	Intestine	g719268 cysteine-rich heart protein (hCRHP)
28	1597231	592	1597231CB1	Intestine	g1185451 cytochrome P450 monooxygenase
29	4174437	267	4174437.con	Intestine	g181532 defensin 5 gene
9	2182901	268	2182901.con	Intestine	g181546 defensin 6 mRNA
19	1747979	569	1811382CB1	Intestine	g30822 mRNA for diacylglycerol kinase
62	1630553	. 022	1630553.con	Intestine	g178285 angiotensin I-converting enzym
63	478960	172	155179CB1	Intestine	g6647301 matriptase mRNA
8	2132487	272	2132487.con	Intestinc	g391772 regenerating protein I

# LABLE

SEQ ID	cDNA	SEQ ID	cDNA	Tissue	Description of GenBank Homolog
65	2921152	273	2921152CB1	Intestine	g971462 mRNA for I-15P (I-BABP)
99	1846428	274	1800311CB1	Intestine	g183414 guanylin mRNA
<i>L</i> 9	2796143	275	610574CB1	Intestine	g2924619 mRNA for hepatocyte growth factor activator inhibitor type 2
89	1805613	276	1805613.con	Intestine	g1814276 A33 antigen precursor
69	1431273	777	989613CB1	Intestine	g535474 N-benzoyl-L-tyrosyl-p-amino-benzoic acid hydrolase
20	1804662	278	1804662.con	Intestine	g2058317 mRNA for putative carboxylesterase
17	2921194	279	2921194.con	Intestine	g2385451 mRNA for galectin-3
72	395368	280	395368.con	Intestine	g2826520 maltase-glucoamylase
73	2182861	281	1845979CB1	Intestine	g454153 intestinal mucin (MUC2)
74	1806436	282	1751028CB1	Intestine	g187468 P-glycoprotein (PGY1)
75	2922143	283	1501077CB1	Intestine	g36644 si mRNA for sucrase-isomaltase
76	876720	284	3130321CB1	Lung	g190845 receptor for advanced glycosylation end products (RAGE)
11	1600161	285	1910091.con	Lung	g1699037 ABC3 mRNA
28	2174130	286	2174130.con	Lung	g181467 decay-accelerating factor
79	2219077	287	g6580818	Lung	g6580814 indolethylamine N-methyltransferase
80	1965041	288	1965041.con	Lung	g3882236 mRNA for KIAA0758 protein
81	1649959	289	1649959.con	Lung	g186729 mesothelial keratin K7
82	1222317	290	1222317CB1	Lung	g179916 CAPL protein mRNA
83	2510171	291	939088CB1	Lung	g36490 secretory leucocyte protease inhibitor
84	1988674	292	1988674.con	Lung	g190673 pulmonary surfactant-associated prot B
82	1672640	293	1672640.con	Lung	g37946 mRNA for pre-pro-von Willebrand
98	1926543	294	g4884115	Liver	g23875 3-oxoacyl-CoA thiolase
87	1504934	295	1504934.con	Liver	g28560 peroxisomal L-alanine:glyoxylate aminotransferase
88	2512879	596	2512879.con	Liver	g178089 class I alcohol dehydrogenase (ADH1) alpha subunit
68	1359832	297	1359832.con	Liver	g5002378 alcohol dehydrogenase beta2 subunit
96	1583076	298	1583076.con	Liver	g178147 alcohol dehydrogenase class I gamma subunit
16	139838	299	139838CB1	Liver	g178120 class II alcohol dehydrogenase (ADH4)
92	1344654	300	1344654.con	Liver	g219409 mRNA for alpha-2-plasmin inhibitor
93	2513979	301	2513979.con	Liver	g28747 mRNA for apolipoprotein All prec
94	2369312	302	2369312.con	Liver	g28802 mRNA for precursor of apolipoprotein CI
95	2048364	303	2514629CB1	Liver	g28805 mRNA for lipoprotein apoCII
96	85246	304	85246.con	Liver	g178856 apolipoprotein H

# **FABLE**

Description of GenBank Homolog	g178994 liver arginase mRNA	g179078 asialoglycoprotein receptor H1	g5020419 carbamyl phosphate synthetase I	g180255 ceruloplasmin	g182389 coagulation factor X	g179721 complement component C8-gamma	g179970 corticosteroid binding globulin	g180986 cytochrome P450IIA3 (CYP2A3)	g263688 cytochrome P450 2C [Macaca	g510085 (clone NF 10) cytochrome P450 nifedipine oxidase	g181394 cytosolic epoxide hydrolase	g8164183 22kDa peroxisomal membrane p	g6523808 carbonyl reductase mRNA	g7023255 cDNA FLJ10913 fis	g7023313 cDNA FLJ10948 fis	g182406 fibrinogen alpha subunit	g188630 flavin-containing monooxygenase form II	g183655 glutathione S-transferase	g31675 mRNA for group-specific component	g6759555 mRNA for putative progesterone bp	g184487 hemopexin mRNA	g184391 histidine-rich glycoprotein	g2865608 homogentisate 1,2-dioxygenas	g494988 nicotinamide N-methyltransferase	g183117 insulin-like growth factor bp	g33988 mRNA for inter-alpha-trypsin inhibitor	g33984 second protein of inter-alpha-trypsin inhibitor complex	g3236285 leptin receptor short form	g180947 carboxylesterase mRNA	g24444 mRNA for alpha1-acid glycoprotein (orosomucoid)	g189410 oxytocin mRNA	g35896 mRNA for retinol binding protein
Tissue	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver
cDNA	139825CB1	138274CB1	4285165CB1	630729CB1	946822.con	2517330.con	272669CB1	138361CB1	168865CB1	271684CB1	2513588CB1	1626663CB1	1923613.con	2058620.con	1965888CB1	1486348.con	2590673.con	1995380.con	2078240CB1	1846226.con	185986CB1	085596CB1	1544305CB1	149832CB1	1448718.con	2517268.con	085011CB1	2843638.con	1297817CB1	2517374CB1	2005973CB1	2515729CB1
SEQ ID	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336
cDNA	166337	138274	1633340	1982416	946822	2517330	2516489	88741	168865	231779	234123	1833801	1923613	2058620	1930954	1511658	2590673	1995380	167409	1846226	2052185	2517389	911015	604856	1448718	2517268	167134	2843638	1813269	1861971	2005973	2515729
SEQ ID	16	86	S	100	<u>=</u>	102	103	104	105	901	107	801	60	011	Ξ	112	113	114	115	116	117	811	119	120	121	122	123	124	125	126	127	128

# [ABLE]

Description of GenBank Homolog	g35689 liver mRNA for protein C	g5834471 mRNA for regucalcin	g1160968 serum amyloid A	g337749 serum amyloid A protein	g432974 sterol carrier protein X	g5596369 transferrin receptor 2 alpha	g36712 mRNA for tyrosine aminotransferase	g4530276 lipopolysaccharide-binding p	g36574 mRNA for S-protein	g2707821 aldehyde reductase (ALDR1)	g3523100 Ksp-cadherin (CDH16)	g2708638 carbonic anhydrase precursor	g521073 mRNA for chloride channel	g1809239 glycoprotein receptor gp330	g2213812 podocalyxin-like protein	g7768681 genomic DNA, chromosome 21q	g296365 mRNA for propionyl-CoA carboxylase a-chain	g452649 mRNA for lung amiloride sensitive Na+ channel	g339204 (clone V6) transcobalamin II	g340165 uromodulin (Tamm-Horsfall glycoprotein)	g537511 alpha-amylase mRNA	g187149 bile salt-activated lipase (BAL)	g35329 mRNA for procarboxypeptidasc A1	g790226 preprocarboxypeptidase A2	g180885 colipase mRNA	g180331 cystic fibrosis mRNA, CFTR	g182057 pancreatic clastase IIA mRNA	g607029 elastase III B mRNA	g163497 PDI (E.C.5.3.4.1)	g325464 endogenous retrovirus type C oncovirus sequence	g31107 mRNA for elongation factor 2	g1244511 pancreatic zymogen granule membrane protein GP-2
Tissue	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidncy	Kidney	Kidney	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas
cDNA	2132356.con	2614869CB1	2631845.con	086390CB1	2881975CB1	g5596369	606122.con	2515740CB1	1272023CB1	1634342.con	629242CB1	3766382.con	3485891CB1	3321896CB1	1297562.con	2910715.con	1612344CB1	1453049.con	1881237CB1	3669695CB1	2776408CB1	1330674.con	2377834.con	1307376CB1	4166960CB1	g180331	2383205.con	2015871.con	2088868CB1	1709828.con	1515152CB1	3665105.con
SEQ ID	337	338	339	340	341	342	343	344	345	346	347	348	349	320	351	352	353	354	355	326	357	358	359	360	361	362	363	364	365	366	367	368
cDNA	2132356	1001726	2631845	86390	1287840	2516905	606122	3553733	1813381	1634342	1418871	3766382	943181	603761	1297562	2910715	196975	1453049	1968695	958344	254081	1330674	2377834	2075464	2383235	1285503	2383205	2015871	2374046	1709828	2061119	3665105
SEQ ID	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	<del>1</del>	145	146	147	148	149	120	151	152	153	154	155	156	157	158	159	160

# TABLE

Description of GenBank Homolog	g893381 mRNA for Reg-related sequence	g7023457 cDNA FLJ11041 fis	g187231 pancreatic lipase related prote	g190012 phospholipase A-2	g521215 pancreatic trypsin 1	g3928429 mRNA for trypsinogen IV a-form	g1709300 amyloid precursor-like protei	g182736 cerebellar degeneration-assoc prot	g397934 a2-chimaerin	g251801 glial fibrillary acidic protein	g7669991 mRNA; cDNA DKFZp761L0516	Incyte Unique	g600118 extensin-like protein	g189982 testis-specific cAMP-dependent prot kinase catalytic subunit	g6523828 P19 protein mRNA	g9588045 BRI3	g3892873 mRNA for GABA-B R1b receptor	g251801 glial fibrillary acidic protein	g493133 glutamate receptor 2	g2894085 mRNA for p40	g5689336 mRNA for EB3 protein	g3451335 F22162_1	g4426596 islet-brain 1 mRNA	g4322560 cell-line OV177 DRR1	g2865218 integrin binding protein Del-1	g1263035 neuronal membrane glycoprot	g1710283 neuronal olfactomedin-related ER localized prot	g3882192 mRNA for KIAA0736 protein	g1665814 mRNA for KIAA0275 genc	g307306 neuroendocrine-specific protein A	g687589 (AF1q) mRNA	g35958 beta-tubulin gene (5-beta)
Tissue	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain
cDNA	2068983.con	3526170CB1	5070239CB1	949518CB1	2085191.con	2792982.con	787351CB1	382416.con	1852659.con	3220181.con	1726307.con	1904244.con	2039955.con	2675641.con	1412749.con	1963854.con	2949085.con	2963196.con	3493359CB1	1674985.con	2109054.con	3317039.con	2838551.con	1477568.con	2963871.con	2847104CB1	2292011.con	1349484.con	1674253.con	1932189.con	1558165CB1	1486358.con
SEQ ID	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	330	391	392	393	394	395	396	397	398	399	400
cDNA	2068983	2242648	885032	2383830	2085191	2792982	243123	382416	1852659	3220181	1726307	1904244	2039955	2675641	1412749	1963854	2949085	2963196	1505977	1674985	2109054	3317039	2838551	1477568	2963871	1740547	2292011	1349484	1674253	1932189	1403041	1486358
SEQ ID	191	162	163	164	165	991	191	891	691	170	171	172	173	174	175	176	171	178	179	180	181	182	183	184	185	186	187	188	189	180	161	192

# $\Gamma ABLE$ 1

Tissue Description of GenBank Homolog	g2645406 calmodulin-stimulated phosphodiesterase PDE1B1	g1710192 clone 23586 mRNA sequence	g559331 mRNA for KIAA0080 gene	g1503987 mRNA for KIAA0202 gene	g662277 mRNA for MOBP	g1236938 transcriptional activator mRN	g1927201 FEZ1 mRNA	3' of g1403054???	g3290199 peanut-like 2 (PNUTL2) mRNA	g7669991 mRNA; cDNA DKFZp761L0516	g190084 proteolipid protein	g5817080	g2921407 EEN-B1 mRNA	g31657 GAT1 mRNA for GABA transporter	g307287 (clone CCG-B7) mRNA sequence	g35439 mRNA for protein gene product
Tissue	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain
SEQ ID cDNA	3869211CB1	530629.con	g559331	1989129.con	1486348.con	1397294.con	2844322.con	1481440.con	026459CB1	1406786.con	1485846.con	2153242.con	3335607CB1	3244361.con	1289007CB1	1286746CB1
SEQ ID	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416
cDNA	1439065	530629	1672676	1989129	1486348	1397294	2844322	1481440	26459	1406786	1485846	2153242	2157981	3244361	1986737	2506867
SEQ ID cDNA	193	194	195	961	161	198	199	200	201	202	203	<b>504</b>	202	506	207	208

Table 2

Source No:	Tissue	Age	Ethnicity/Sex	Cause of Death	Conditions or Diseases
122	Ventricle	39	C/M	gunshot wound	
1822	Heart	4	C/M	intracranial hemorrhage	
B7015	Heart				
9869	Skeletal Muscle	23	A/M	accident	
376	Tibia	4	P.	NA AN	type II diabetes
4071	Thigh	2	2	NA AN	cancer
2869	Uterus	45	A/F	accident	
8869	Uterus	49	ΑF	accident	
6111	Ovary	47	CF	4Z	cancer
6869	Stomach	59	A/F	accident	
0669	Stomach	45	A/M	accident	
1669	Sm Intestine	57	A/F	accident	
6392	Colon	69	AF	accident	
3779	Lung	13	C/M	intracranial hemorrhage	
2881	Lung	Ξ	7	drowning	
2152	Lung	12	C/M	accident	ADD, hyperactivity
4209	Liver	56	CF	٧Z	cancer
4133	Liver	99	C/M	Ϋ́	cancer
2147	Liver	00	CF	closed head injury	diabetes, asthma
6993	Kidney	72	A/M	accident	
6994	Kidney	26	A/M	accident	
9669	Kidney	45	A/M	accident	
9669	Pancreas	. 24	AM	accident	
2669	Spleen	28	A/M	accident	
8669	Splecn	33	A/M	accident	
6669	Brain	27	Α/M	accident	
7000	Brain	23	A/M	accident	
3971	Striatum	78	C/M	NA	Alzheimer's

	Т							_	_									_												
Lung (3779)	-0.85	-0.26	0.49	0.00	-1.85	-1.85	-2.23	-0.85	-0.14	-2.04	-1.68	-1.85	-2.96	-1.49	-1.93	-1.43	- <del>1</del> .00	-1.54	-2.04	0.0	-1.68	-1.77	-0.77	-1.26	-1.43	-1.38	-1.07	0.00	-0.49	-3.36
Colon (6392)	0.26	0.14	-0.38	-0.14	-0.77	-2.04	-2.70	-1.77	-0.49	-2.66	-1.07	-1.26	-2.20	-0.14	-2.98	-4.05	-0.85	-2.20	-0.58	0.38	-0.93	•1.00	-0.77	-1.58	-0.38	-1.77	-0.38	-0.49	-1.58	-4.41
Small Intest	0.14	89.0	-0.68	0.14	-1.00	-2.23	-2.77	-1.20	0.00	-2.66	-1.43	-1.54	-2.23	-0.85	-3.00	-3.95	-1.00	-2.14	-0.85	-1.20	-1.72	-2.38	-0.93	-2.17	-0.58	-1.43	-0.49	-0.38	-1.43	-3.84
Small Intest (6991)	-0.26	0.38	-0.58	0.26	-1.00	-1.68	-2.68	-1.38	-0.26	-2.79	-1.14	-0.38	-2.35	-0.14	-2.81	-3.67	-0.93	-2.04	-0.26	-0.93	-2.23	-2.14	-0.93	-2.43	-0.68	-1.72	0.00	-0.49	-1.68	-4.25
Stomach (6990)	-0.38	-0.68	0.00	0.26	-0.49	-1.89	-2.81	-1.63	-0.38	-2.46	-1.07	-1.14	-1.85	-0.49	-2.07	-3.85	-0.93	-1.54	-1.72	-1.14	0.14	0.26	-0.14	-1.07	-1.00	-1.14	-0.77	-0.26	-1.63	-4.06
Stomach (6989)	-0.38	-0.26	-0.38	0.58	-1.20	-1.68	-2.04	-0.93	-0.49	2.56	-1.20	0.14	-2.00	-0.58	-2.70	-3.66	-1.49	-2.20	-0.68	-1.32	0.00	0.14	0.00	-0.93	-0.68	-0.85	-0.58	-0.26	-1.43	-3.81
Ovary (1119)	-0.38	-0.26	-0.85	-0.77	-1.93	-2.07	-2.66	-1.14	-0.58	-2.49	-1.63	-2.23	-2.51	-1.85	-1.93	-3.43	-1.07	-2.00	-1.54	-2.85	-0.58	-0.68	1.54	-1.72	-1.20	-1.14	-1.00	0.00	-1.26	4.09
Uterus (6988)	-1.00	0.68	0.58	0.58	-2.10	-1.81	-2.32	-1.68	0.14	-1.96	-1.72	-0.77	-2.17	-1.96	-0.58	-3.55	-1.07	-1.54	0.49	-2.56	1.38	1.43	-0.77	0.14	-0.85	-1.07	-1.14	0.00	-1.20	-2.85
Uterus (6987)	-0.93	0.58	0.58	0.93	-2.00	-1.49	-2.38	-1.63	0.14	-2.49	-1.63	0.00	-2.63	-1.85	-1.00	-3.38	-1.14	-1.93	0.77	-2.46	1.07	1.07	-0.85	0.00	-0.93	-1.49	-0.85	0.14	-1.43	-3.46
Thigh (4071)	-0.14	-1.43	-0.68	-0.14	89.0	-1.14	-1.93	-1.00	-0.77	-0.38	1.54	1.20	1.8.1	0.85	1.26	-1.26	2.07	2.54	1.68	1.63	0.77	0.93	-1.20	-1.63	2.29	2.61	1.93	2.70	2.81	3.32
Tibia (376)	-0.26	-1.38	-0.58	0.38	1.07	-0.85	-1.26	-0.85	-0.49	-0.26	1.38	1.89	2.00	1.32	1.58	2.43	1.38	2.61	0.85	2.43	1.07	1.14	0.00	-1.38	1.49	3.19	1.43	2.96	3.17	4.50
Skeletal Muscle (6986)	0.77	-1.58	-0.26	99.0	1.85	-1.00	-2.07	-1.14	-0.77	-0.58	2.81	1.20	3.05	2.14	1.63	0.58	0.85	2.23	1.63	1.07	1.07	1.26	-0.58	-1.43	3.34	3.07	1.8.1	3.32	2.98	3.10
Неап (B7015)	2.04	1.38	1.58	1.68	1.49	1.00	2.93	3.25	2.29	3.69	18.	2.89	2.46	1.93	2.77	2.63	18.1	2.46	2.38	1.93	0.49	0.58	2.20	1.54	0.38	0.77	-0.77	-1.14	-1.81	-3.99
Неап (1822)	1.32	1.14	2.17	1.89	1.8.1	4.06	3.20	3.39	1.68	3.14	2.23	3.14	2.17	1.63	2.32	3.12	2.43	2.98	2.89	1.72	1.26	1.20	1.68	2.04	1.14	0.0	-0.58	0.26	-1.20	-3.90
Ventricle (122)	1.38	1.14	2.23	2.70	1.72	1.26	3.83	2.79	1.96	3.87	2.61	3.42	5.66	2.29	3.45	3.54	2.79	3.17	1.54	2.35	2.29	2.29	2.38	1.89	0.93	9.	-0.38	-0.14	-1.26	-3.61
Clone ID	2380381	1618422	2672064	608361	1922596	1850033	286986	718807	2880435	187326	1997963	467700	57382	1222442	4013105	924319	1645119	1379925	1960061	3506985	551403	3948420	1722853	1557490	3208425	1668474	1622542	4014318	2394888	1345550

le Heart		Неап		Skeletal	Tibia	Thigh	Uterus	Uterus	Ovary	Stomach	Stomach	Small	Small	Colon	Lung
(1822) (B7015) Muscle (6986)	(B7015) (6986) (376) (	(986) (376) (986)	(376)		(4071)		(2869)	(8869)	(1119)	(6869)	(0669)	Intest (6991)	Intest (6991)	(6392)	(37.79)
0.49 -0.26 4.05 2.04	-0.26 4.05 2.04	4.05 2.04	2.04		2.61		-2.72	-2.58	-2.51	-2.20	-2.49	-2.72	-2.32	-2.38	-1.96
-0.14 -0.85 2.49 2.66	-0.85 2.49 2.66	2.49 2.66	2.66		2.79		-0.26	-0.26	-0.49	-0.85	-0.85	-0.68	-0.68	-0.93	-0.26
0.00 2.23	0.00 2.23 1.26	2.23 1.26	1.26		1.85		-1.20	-1.14	-1.00	-0.68	-1.14	-0.77	-0.93	-1.26	-1.14
1.14 · 1.49 2.26 1.58	7 1.49 2.26 1.58	2.26 1.58	1.58		1.43		0.58	99.0	0.93	-0.26	-0.58	-0.68	-0.38	-0.26	-0.38
-1.26 -2.04 4.00 2.91	-2.04 4.00 2.91	4.00 2.91	2.91		2.98		-2.79	-2.58	•3.19	-2.29	-3.23	-3.17	-2.41	-3.10	-3.28
-1.72 -1.54 2.93 3.38	-1.54 2.93 3.38	2.93 3.38	3.38		2.85		-3.60	-3.36	-3.42	-3.22	-3.38	-4.01	-3.90	4.4	-2.98
0.26 0.14 2.41 2.07	0.14 2.41 2.07	2.41 2.07	2.07		2.20		0.00	-0.14	89.0	-0.58	-0.58	-0.58	0.00	-0.38	-1.14
0.85 0.49 0.26 2.35 1.38 1.68	0.26 2.35 1.38	2.35 1.38	1.38		1.68		-0.38	-0.38	0.00	-0.26	-0.26	-0.14	0.00	0.14	-0.85
0.49 0.38 2.93 2.14	0.38 2.93 2.14	2.93 2.14	2.14		2.38		99.0	0.58	89.0	0.00	-0.14	-0.14	0.00	0.14	0.26
-3.56 4.73 3.29	-3.56 4.73 3.29	4.73 3.29	3.29		3.26		-2.81	-2.81	-3.32	-2.72	-3.34	-3.54	-3.72	-3.61	-3.17
0.00 -0.58 2.83 2.10	-0.58 2.83 2.10	2.83 2.10	2.10		1.96		-0.85	-0.14	-1.58	-0.58	-1.63	-0.85	-0.93	-1.20	-1.89
1.77 1.07   1.89 2.07	1.07   1.89 2.07	1.89 2.07	2.07		1.38	_	0.14	-0.14	-0.26	-0.58	-0.93	-0.58	-0.38	-0.68	0.26
0.14 -0.58   1.43 1.38	-0.58 1.43 1.38	1.43 1.38	1.38		1.93		0.38	0.58	-0.26	0.58	-0.26	-0.85	-0.58	-0.49	-1.14
0.49 0.26 1.89 2.20	0.26 1.89 2.20	1.89 2.20	2.20		1.63	_	-0.14	-0.14	-0.26	-0.58	-0.38	-0.77	-0.26	-0.26	-0.14
-0.77 -0.58   1.72 1.85	-0.58   1.72 1.85	1.72 1.85	1.85		2.17		-1.20	-1.20	-1.26	-0.58	-0.85	-0.93	-0.93	-1.14	-0.85
-0.85 -2.32 4.27 3.51	-2.32 4.27 3.51	4.27 3.51	3.51		3,31	_	-2.87	-2.83	-3.09	-2.61	-2.72	-2.89	-2.96	-3.10	-3.41
-0.49 -0.58   1.49 1.26	-0.58   1.49 1.26	1.49 1.26	1.26		1.20		0.26	0.26	0.14	-0.26	-0.38	-0.14	0.00	-0.14	-0.49
-1.68 -2.77 4.54 3.86	-2.77 4.54 3.86	4.54 3.86	3.86		2.94		-2.63	-2.63	-2.58	-2.58	-2.49	-3.23	-2.66	-3.25	-2.20
0.85 0.38 2.58 1.72	0.38 2.58 1.72	2.58 1.72	1.72		0.93		-0.14	0.00	-0.26	-0.26	-0.26	-0.38	-0.38	-0.14	-0.26
0.00 -0.26 2.00 2.00	-0.26 2.00 2.00	2.00 2.00	2.00		2.10	-	1.07	0.77	-0.49	-0.14	0.49	-0.49	-0.14	-0.38	-0.68
-0.38 -1.26 2.38 1.63	-1.26 2.38 1.63	2.38 1.63	1.63		2.10		-1.58	-1.32	-1.72	-0.68	-0.38	-0.68	-0.77	-0.85	-0.68
4.61 4.66 4.18	4.61 4.66 4.18	4.66 4.18	4.18		3.50	_	-4.88	-4.94	-5.17	-3.94	-3.90	-5.26	-4.37	-5.05	-3.88
-0.14 0.14 1.54 1.32	0.14   1.54   1.32	1.54 1.32	1.32		1.43		-0.26	-0.14	×	-0.38	-0.68	-0.38	-0.58	-0.77	-0.85
-2.20 -1.58 3.41 3.17	-1.58 3.41 3.17	3.41 3.17	3.17		3.45		-2.63	-2.61	-3.02	-2.72	-2.98	-2.49	-2.91	-2.89	-2.61
-2.26 -1.43 3.12 3.15	-1.43 3.12 3.15	3.12 3.15	3.15		3.77		-2.58	-2.72	-3.02	-3.12	-2.98	-3.22	-3.66	-3.60	-2.41
1.81 1.00 3.69 3.57	1.00 3.69 3.57	3.69 3.57	3.57	•	3.81		-2.07	-2.17	×	-1.32	-1.72	-1.54	-1.38	-2.26	-1.43
1.68 1.63 1.85 1.63	1.63 1.85 1.63	1.85 1.63	1.63		2.23		-1.00	-1.07	-1.32	-0.38	-0.14	-1.14	-1.20	-1.00	0.00
1.32 1.85 2.85 2.66	1.85 2.85 2.66	2.85 2.66	2.66		2.68		-1.43	-1.93	-2.26	-1.14	-1.54	-1.68	-2.07	-2.00	-1.07
1.77 0.58 3.92 2.85	0.58 3.92 2.85	3.92 2.85	2.85	. ,	3.50	_	-0.68	-0.93	-1.32	-0.58	-0.14	-1.43	-1.54	-1.63	-1.20
2.41 2.04 3.25 2.35	2.04 3.25 2.35	3.25 2.35	2.35	•	2.23	_	-0.93	-0.93	-1.26	-1.32	-0.77	-1.58	-1.49	-1.54	-1.38

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Lung (3779)	-1.77	-1.54	-1.43	-0.14	-5.02	-2.38	-2.51	-3.80	-3.83	-1.32	-1.43	-3.31	-1.00	-1.81	-2.23	-2.38	-1.07	-1.14	-0.38	-0.85	-0.93	-1.54	-0.38	0.58	-0.68	-0.58	0.14	0.14	00.1-	-1.96
Colon (6392)	-1.20	-0.93	-1.43	-0.38	-4.86	-2.43	-4.41	-5.49	-4.43	-1.54	-0.49	-2.89	-0.77	-0.93	-0.85	-0.68	-0.38	-1.32	0.58	0.26	-0.49	0.77	-0.58	0.00	00.0	0.14	0.38	0.14	0.26	-0.58
Small Intest (6991)	-1.58	-1.14	-1.26	-0.26	-4.69	-2.23	-3.87	-5.37	4.13	-1.58	-1.00	-3.62	-0.58	-1.00	-1.20	-1.81	-0.93	-1.20	0.49	0.14	-0.38	0.26	-1.14	-0.26	-0.14	-0.26	-0.38	-0.38	0.00	-0.93
Small Intest (6991)	-1.20	-1.00	-1.38	-0.77	-5.00	-1.96	-4.06	-6.14	-5.09	-1.43	-0.93	-3.61	-0.85	-0.49	-0.49	-0.77	-0.85	-1.68	0.85	0.85	-1.07	0.1	-1.07	-0.26	0.38	0.14	-0.49	0.00	0.85	-1.00
Stomach (6990)	-1.26	-0.49	-1.26	0.14	-5.50	-2.17	-3.28	4.98	-3.93	-1.58	0.38	-2.74	-0.26	-1.00	-1.38	-1.54	-1.20	-1.32	-0.85	-0.14	-0.58	-0.68	-1.07	-0.85	-0.49	-0.49	0.00	-0.58	-0.38	0.14
Stomach (6989)	-0.26	-0.58	-1.14	-0.14	-5.22	-2.00	-2.72	-4.65	-3.09	-1.43	-0.26	-2.43	-0.77	-0.14	0.38	-0.93	-0.77	-1.00	0.77	1.49	0.00	0.85	0.14	0.49	9.	0.26	0.49	0.49	1.20	0.26
Ovary (1119)	-2.20	-1.32	-1.68	-0.38	-4.92	-2.49	-2.74	-4.67	-4.49	-0.77	-1.96	-4.11	-0.26	-1.26	-0.49	-1.85	-0.26	-1.07	0.58	0.14	0.93	0.00	1.68	1.72	1.58	1.38	1.32	2.14	1.14	2.07
Uterus (6988)	-0.26	-0.85	-1.07	-0.26	-4.87	-1.43	-2.72	-4.19	-4.19	0.1.	-1.43	-4.19	0.49	0.26	1.63	-1.89	-0.77	-0.93	2.14	2.68	2.07	1.58	2.70	2.66	1.85	1.77	1.81	5.66	3.14	2.43
Uterus (6987)	0.58	·-	-1.00	-0.26	-4.95	-1.38	-2.70	-4.18	-4.28	-1.14	-1.14	-4.02	0.14	1.07	1.63	-2.32	-0.85	-0.85	2.10	2.93	2.04	1.96	3.23	2.61	1.81	1.58	2.23	2.51	3.39	2.07
Thigh (4071)	2.98	1.26	2.63	1.49	3.07	3.29	2.77	3.61	3.12	1.77	2.10	3.81	1.49	2.74	2.83	3.02	2.63	1.54	-1.32	-2.20	0.00	99.0	-1.32	-0.68	0.49	-0.26	-0.49	1.00	-2.32	0.26
Tibia (376)	3.23	1.07	1.68	2.32	2.68	3.28	3.23	4.26	2.96	1.93	2.00	3.94	2.00	3.54	2.81	2.93	5.66	1.68	-1.14	-2.07	0.26	0.68	-2.04	-0.49	0.14	-0.68	-0.58	1.85	-2.46	0.26
Skeletal Muscle (6986)	3.29	2.54	3.00	1.43	4.22	3.02	2.85	4.15	2.89	2.70	2.87	3.10	2.17	3.42	2.98	3.17	3.52	2.51	-1.20	-1.49	89.0	1.14	-1.58	-0.58	0.77	-0.26	0.38	1.20	-1.49	0.58
Неап (В7015)	-0.68	1.14	0.14	0.93	2.00	2.17	0.49	-1.85	2.20	0.85	1.07	1.68	1.54	-0.68	-1.00	0.58	0.0	-0.38	-1.68	-2.23	0.77	0.77	-1.89	-0.49	-0.93	-0.26	0.14	0.00	-2.98	-0.77
Неал (1822)	-0.26	1.63	2.00	0.77	2.32	2.17	0.77	-0.77	-0.26	0.93	1.32	2.14	1.89	-0.14	-0.58	1.63	0.26	0.26	-1.07	-1.54	1.43	0.77	-1.32	-0.26	-0.26	-0.26	0.00	0.26	-1.49	-0.38
Ventricle (122)	1.63	1.49	0.85	1.81	1.93	2.35	0.77	-0.85	2.72	1.26	1.32	1.96	1.85	0.00	-0.14	0.26	1.26	-0.14	-1.63	-1.68	2.07	1.38	-1.32	0.00	-1.00	0.00	0.38	<b>8</b> .	-1.68	-1.14
Clone ID	224996	661259	3246379	78783	2639181	1672467	2950063	3288518	184110	1368173	1813409	58309	1721744	1924344	3176845	2286809	1985244	1570042	2079906	2852042	1319020	1572555	782235	1314882	1403636	1968921	1558081	2495131	4049957	1686585

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Lung (3779)	-2.56	-0.85	-1.85	1.54	-2.29	-0.58	0.14	-1.07	0.77	0.00	-0.26	-0.38	-0.85	0.38	-1.14	-0.14	0.14	0.00	0.38	-4.85	4.45	-2.49	-2.61	-1.07	-0.14	-0.85	-0.58	99.0	-1.26	900
Colon (6392)	0.14	0.77	1.20	1.38	-2.32	-0.85	0.38	0.26	0.38	0.38	-0.68	0.26	0.00	0.14	-1.00	0.58	-0.49	0.49	0.93	4.80	4.04	-4.45	-2.10	1.72	1.14	0.85	1.81	1.96	-2.04	1 20
Small Intest (6991)	0.14	1.07	1.20	0.77	-2.26	-0.85	-0.14	0.85	0.14	00.0	-0.68	-0.26	0.00	-0.58	-1.38	0.14	-0.58	0.49	0.38	-5.19	-5.17	-5.17	-1.49	1.72	1.63	1.07	1.54	1.63	-1.63	0.85
Small Intest (6991)	0.77	1.32	1.96	1.32	-2.38	-0.68	-0.26	0.00	-0.14	-0.38	-0.38	-0.77	-0.38	-0.38	-1.00	0.14	-0.14	0.49	0.58	-1.68	-1.20	-1.26	-1.32	1.85	1.26	0.38	0.85	0.38	-1.93	0.58
Stomach (6990)	0.14	0.00	0.14	0.26	-2.43	-0.93	0.38	-0.58	0.00	0.14	0.14	-0.49	-0.26	0.14	-1.00	0.58	1.96	2.46	1.96	3.64	3.67	3.51	3.45	3.38	1.58	3.26	1.26	2.35	2.49	1.38
Stomach (6989)	1.54	1.32	2.10	1.14	-2.41	-0.26	0.26	0.00	0.00	0.14	0.49	0.14	0.38	0.14	-0.68	0.49	1.85	1.49	1.68	3.82	3.89	4.19	3.10	3.12	2.00	3.00	1.58	2.04	1.72	1.14
Ovary (1119)	-0.77	0.49	-0.49	0.1	-1.68	3.64	2.49	3.54	1.49	2.23	1.32	2.23	1.38	3.04	2.83	2.54	-0.85	-0.68	-0.68	-5.33	-4.54	-5.38	-3.26	-1.81	-0.49	-2.38	-2.04	-1.54	-1.77	-1.49
Uterus (6988)	2.81	2.79	2.87	2.79	1.68	-0.77	1.32	-1.07	1.14	1.14	-1.07	1.43	1.49	5.04	-0.14	1.38	-0.58	0.58	-0.58	-5.17	-4.59	-5.08	-3.12	-1.77	-0.49	-2.46	-1.93	-1.68	-2.00	-2.29
Uterus (6987)	3.22	2.77	3.14	2.04	2.68	-0.49	1.14	-1.20	1.32	0.58	-0.77	1.54	1.20	2.07	0.26	1.07	-0.58	0.85	-0.49	-5.38	4.75	-5.20	-3.00	-1.54	-0.68	-2.46	-1.85	-1.81	-2.29	-2.63
Thigh (4071)	-2.38	-2.04	-1.43	-0.49	-2.14	-0.58	-0.14	-0.93	-0.93	0.38	-0.68	-0.38	-1.81	-0.49	-0.85	-1.26	-0.68	-0.77	-0.85	-5.10	4.4	-4.56	-2.70	-1.20	-0.49	-2.04	-1.93	-1.54	9:1	-2.66
Tibia (376)	-2.38	-1.96	-1.20	-0.49	-1.85	-0.38	0.00	-0.26	-0.26	0.38	-0.58	-0.68	-1.38	-0.26	-0.85	-1.20	-0.77	-0.38	-0.58	-4.60	-3.98	-4.32	-2.23	-0.14	-0.49	-1.32	-1.38	-0.68	-0.49	-2.23
Skeletal Muscle (6986)	11.77	-1.85	-1.26	-0.38	-2.23	-0.68	0.00	-0.58	-1.14	0.49	-0.49	0.77	-1.77	-0.14	-0.77	-0.85	-0.58	-0.85	-0.68	-5.28	-4.35	-4.76	-2.74	-0.68	-0.68	-2.17	-2.32	-1.07	-0.26	-2.66
Hean (B7015)	-2.23	-2.54	-2.49	0.77	-2.14	-0.26	0.00	-1.26	0.49	0.14	1.20	1.07	-0.58	-0.58	-0.26	-1.32	0.14	0.93	-0.49	-5.13	-3.51	-5.62	-1.85	-2.14	-0.49	-2.46	-2.32	-2.29	-1.77	 20.0
Heart (1822)	-1.07	-1.38	-1.20	.00.	-2.54	-1.14	0.00	-0.68	0.26	0.00	1.20	0.00	0.26	0.00	-0.77	-0.68	-0.58	0.49	-0.58	-5.86	-5.09	-5.01	-2.96	-0.38	-0.77	-2.70	-2.14	-1.68	-1.07	-2.29
Ventricle (122)	-0.49	-2.38	-2.23	0.26	-1.77	-0.93	0.00	-0.58	0.14	-0.38	1.49	0.58	0.14	-0.14	-0.58	-0.77	-0.68	0.77	-0.58	-5.83	-4.84	-4.89	-3.20	-0.93	-0.58	-2.74	-2.20	-1.68	-1.26	-2.41
Clone ID	2696735	1720149	1866751	1851696	93820	2368282	2831248	182802	1003884	1120	1308542	3820761	1999167	1522716	1612969	337500	1285380	1636639	1985870	1677936	910612	2594407	963536	2252895	2804190	1998428	1800114	1806769	2474163	1435374

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Lung (3779)	0.77	1.14	-0.85	-3.07	-3.09	0.00	-0.77	0.00	-0.38	-2.93	-1.20	0.77	-0.49	-1.68	-1.58	0.14	-1.54	-0.58	-0.68	-3.00	-1.07	-1.68	-1.20	-2.72	4.09	-1.89	-2.46	-1.85	2.98	1.85
Colon (6392)	2.32	2.43	1.72	3.25	3.61	1.72	3.00	1.72	2.68	2.91	3.26	1.43	2.98	2.94	1.93	1.96	3.09	2.10	18.	3.41	2.26	3.09	3.38	2.72	2.56	2.41	2,93	2.72	-1.00	-0.58
Small Intest (6991)	2.00	2.10	1.81	3.31	3.62	1.54	2.98	1.8	2.61	3.60	3.31	1.54	3.05	3.07	2.07	2.04	3.51	2.14	2.14	3.39	2.81	3.10	3.09	2.72	3.26	3.05	2.68	2.56	-0.58	-0.49
Small Intest (6991)	1.68	2.38	1.58	2.63	2.66	18.1	3.12	1.49	2.17	2.35	3.22	1.07	2.54	2.66	1.54	1.81	2.81	18.1	1.89	2.63	2.38	2.68	2.29	2.17	2.26	2.26	2.26	2.41	-1.00	-0.49
Stomach (6990)	-1.20	1.14	-0.77	-4.63	-4.50	0.38	-1.63	0.38	-0.38	-2.87	-2.14	89.0	-0.85	-1.89	-0.77	0.77	-1.49	-0.49	-1.07	-1.96	97.	0.93	2.32	0.58	-4.98	-2.49	-2.51	-2.10	-1.07	-0.68
Stomach (6989)	-1.00	0.85	-0.38	-1.89	-1.89	0.49	-1.20	0.58	0.49	-2.49	-1.77	0.49	0.00	-1.38	-0.38	0.38	-1.38	-0.26	-1.00	-1.07	-0.26	1.32	1.54	1.32	-2.63	-0.38	-2.35	-1.72	-0.93	-0.68
Ovary (1119)	-1.00	-0.26	×	-3.93	-3.86	-0.26	-1.96	-1.07	9.I.	-3.23	-1.49	-0.38	-0.85	-2.32	-1.07	0.85	-2.35	-0.38	×	-3.56	-1.77	-2.61	-1.38	-2.58	-5.16	×	-2.54	-2.20	-1.00	-0.85
Uterus (6988)	-0.14	0.85	-1.32	-3.74	-3.25	0.14	-0.58	-0.77	-1.07	-3.19	-1.38	-1.89	-0.77	-2.56	-1.14	99.0	-2.49	-0.26	-0.38	-3.19	-1.38	-2.72	-1.77	-3.02	-5.31	-1.81	-0.38	-2.14	-0.93	-0.49
Uterus (6987)	-0.38	1.14	-1.38	-4.28	-3.45	0.26	-1.20	-1.00	-0.77	-3.56	-1.26	-1.72	-0.85	-2.32	-1.26	0.58	-2.56	-0.38	-0.58	-3.36	-1.49	-2.96	-2.07	-3.29	-4.97	-2.23	-0.49	-2.23	-0.77	-0.38
Thigh (4071)	-0.49	-0.58	0.14	-3.47	-3.22	-0.68	-1.07	-0.58	-0.38	-2.68	-0.68	-1.77	-0.38	-2.26	-1.00	-1.07	-2.10	-0.14	-1.00	-2.89	-1.20	-2.17	-1.85	-2.63	4.49	-1.93	-2.29	-1.26	-0.85	-0.38
Tibia (376)	0.26	0.14	1.07	-3.17	-2.20	-0.38	-0.85	-0.26	-0.14	-2.29	-0.26	-1.38	0.14	-1.38	-0.49	-0.85	-1.85	0.26	-0.93	-2.43	-1.20	-1.77	-1.07	-2.00	-4.26	-1.32	-1.77	-1.07	-0.77	-0.38
Skeletal Muscle (6986)	-0.26	0.00	0.77	-3.47	-3.02	-0.77	-0.93	-0.49	0.14	-2.81	-0.77	-1.43	0.00	-1.85	-0.77	-0.49	-2.14	0.00	-1.26	-2.61	-1.07	-2.38	-2.04	-2.94	-4.71	-1.96	-2.00	-1.20	-0.77	0.00
Неал (В7015)	0.14	-0.26	0.93	-4.21	-3.56	-1.32	-1.54	-1.07	-1.20	-3.02	-2.79	-1.68	-1.85	-2.00	-1.26	0.00	-3.51	-0.85	-0.77	-3.32	-0.77	-3.55	-3.68	-3.23	-4.82	-2.04	-2.07	-2.68	-1.07	-0.93
Неап (1822)	-0.58	-0.26	1.32	-4.47	4.10	-0.49	-0.77	-0.85	-0.58	3.04	-1.77	-0.93	-0.85	-1.96	-0.49	-0.14	-2.23	0.00	-1.07	-2.07	-1.07	-2.61	-2.26	-2.93	-3.09	-1.93	-2.17	-1.77	-0.77	-0.49
Ventricle (122)	-0.14	-0.26	1.72	-4.32	-3.98	-0.58	-1.14	-0.58	0.0	-2.79	-1.96	-0.14	-0.38	-1.72	-0.14	-0.38	-2.32	0.14	-0.38	<del>-</del> -	-0.26	-2.41	-2.10	-2.91	-3.46	-1.54	-2.10	-1.68	-0.68	-0.14
Clone ID	434377	2121863	1597231	4174437	2182901	1747979	1630553	478960	2132487	2921152	1846428	2796143	1805613	1431273	1804662	2921194	395368	2182861	1806436	2922143	1696001	1635004	2132752	1734393	4179338	1427623	3320987	2239819	876720	1600161

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Lung (3779)	1.49	1.43	1.77	2.35	1.96	2.35	2.17	1.72	1.81	-0.14	-1.77	0.14	-0.26	-0.38	-2.26	-0.26	-2.49	-0.58	-2.54	-3.79	-0.26	-0.58	-1.68	-0.68	-0.49	-0.14	-0.49	-1.20	-1.49	5
Colon (6392)	0.58	-0.58	-0.85	0.00	0.26	-1.49	-0.68	0.00	-0.68	0.00	-2.46	0.00	-0.38	0.14	-2.74	-1.14	-3.19	-3.39	-3.32	-4.80	-1.58	-0.85	0.49	-0.68	0.00	0.14	-1.26	-2.04	-0.85	0 14
Small Intest	0.26	-0.68	-0.77	0.26	-0.14	-1.32	-0.68	-0.85	-0.58	0.14	-2.04	-0.38	-0.38	-0.14	-2.23	-1.43	-3.42	-3.56	-2.23	-4.37	-1.00	-0.58	0.58	-1.07	-0.14	0.14	-0.85	-1.49	-1.32	000
Small Intest (6991)	0.26	-0.14	-1.07	0.00	00.0	-1.14	-0.26	-0.77	-1.07	00.0	-2.35	-0.58	-1.32	-0.26	-3.17	-1.00	-3.41	-3.96	-3.57	4.99	-1.72	-0.93	0.49	-0.68	-0.26	0.26	-0.93	-2.00	-0.93	0 38
Stomach (6990)	1.07	-0.58	-0.38	0.49	0.00	0.00	-0.68	-0.49	-0.14	-0.14	-2.61	0.14	-0.77	0.26	-2.68	-1.32	-3.41	-2.63	-3.72	-4.53	-1.32	-0.77	-1.58	-0.85	-0.58	-0.38	-1.20	-2.17	-0.77	- 0.49
Stomach (6989)	89.0	-0.14	-0.77	0.14	0.14	0.14	-0.77	-0.14	-0.26	-0.26	-1.89	0.00	-0.26	0.49	-2.14	-1.32	-2.38	.3.23	-3.09	-3.61	-0.85	-0.77	·1.00	-0.49	-0.26	-0.14	-1.00	-1.63	-0.85	-0.26
Ovary (1119)	1.14	0.00	-0.49	-1.54	-1.07	-1.85	-1.20	0.49	-0.85	-0.58	-1.63	-1.20	-1.43	-1.43	-2.61	-1.20	-2.66	-1.20	-3.61	-4.18	-1.20	-0.85	-1.77	-1.72	0.26	-0.85	-1.20	-1.32	-2.54	-0.77
Uterus (6988)	0.00	0.14	0.77	-1.20	0.26	-1.81	-1.07	1.07	-1.14	-0.93	-1.81	9.1.	-1.14	-1.20	-3.36	-1.32	-2.77	-2.68	-3.71	-4.50	-1.20	-0.68	-1.85	-1.96	-0.49	-0.85	-1.00	-1.63	-2.35	9.1-
Uterus (6987)	0.26	-0.26	0.38	-1.14	89.0	-1.63	-0.85	1.00	-0.58	-0.68	-2.00	-1.00	-1.20	-1.26	-3.15	-1.00	-3.04	-2.87	8	-4.65	-0.93	-0.85	-1.68	-1.38	0.00	-0.68	-1.20	-1.81	-2.63	-0.68
Thigh (4071)	0.00	-0.38	0.00	-0.68	-0.38	-1.20	-1.26	0.38	-1.85	-0.77	-1.58	-1.38	-1.81	-1.43	-2.87	9:1-	-2.63	-2.38	-2.66	-3.95	-1.20	-0.38	-1.68	-1.38	0.00	-0.49	-0.93	-1.14	-2.26	-1.20
Tibia (376)	0.00	-0.26	0.85	-0.49	-0.26	-0.77	-0.58	0.58	-1.93	-0.49	-1.07	-0.93	-2.17	-1.72	-2.20	-0.85	-1.81	-1.89	-2.26	-3.35	-0.85	-0.26	-1.43	-1.20	-0.14	-0.85	-0.58	-1.26	-1.77	-0.77
Skeletal Muscle (6986)	0.00	-0.49	0.14	-0.77	0.26	-1.20	-1.26	0.58	-2.04	-0.58	-1.38	-0.93	-1.54	-1.26	-2.43	-1.00	-2.38	-2.72	-2.61	-4.26	9.I.	-0.26	-1.32	-1.07	-0.14	-0.26	-0.93	-1.14	-2.04	-1.26
Hean (B7015)	-0.58	0.26	0.93	-2.10	0.14	-0.26	-1.54	0.58	-1.77	-0.14	-1.77	-1.14	-0.85	-0.77	-2.68	-0.68	-2.32	-3.20	-3.42	-4.89	-2.20	0. <u>.</u>	-0.58	-0.26	0.14	0.14	-1.20	-1.14	-1.68	— 8:-
Неап (1822)	0.00	0.38	0.85	-1.20	-0.14	-1.43	-1.07	1.38	-1.26	-0.14	-1.89	-1.32	-1.32	-1.26	-2.32	-1.38	-3.52	-3.23	-3.17	-4.22	-1.68	-0.58	-1.58	-0.68	0.14	-0.26	-1.14	-1.32	-1.68	-0.85
Ventricle (122)	-0.49	0.26	0.93	-1.26	-0.26	-1.68	-1.32	2.35	-1.72	0.26	-1.81	-1.68	-1.81	-1.58	-2.14	-1.54	-3.35	-3.05	-3.12	-4.17	-1.32	-0.38	-1.20	0.00	-0.26	0.00	-0.14	-1.26	-1.43	-0.93
Clone ID	2174130	2219077	1965041	1649959	1222317	1210121	1988674	1672640	1749417	1926543	1504934	2512879	1359832	1583076	139838	1344654	2513979	2369312	2048364	85246	166337	138274	1633340	1982416	946822	2517330	2516489	88741	168865	231779

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Lung (3779)	-0.85	0.00	0.14	-0.93	-0.58	4.	-0.93	0.93	-3.61	-0.49	-3.28	-1.58	0.00	-0.58	-1.72	-I.68	.1.96	0.49	0.49	-3.34	-1.38	-2.32	-0.58	0.38	-0.38	-0.26	-0.26	-0.58	-1.14	-0.58
Colon (6392)	0.26	1.07	1.00	-0.14	0.38	-4.85	-1.58	0.26	-3.69	0.68	-3.55	-1.72	-0.14	-1.20	-2.04	-1.96	-1.89	-0.26	-0.49	-5.18	0.26	-2.07	-0.93	-1.32	0.14	-1.07	0.49	-0.77	-1.20	-1.26
Small Intest	0.26	0.93	8.	-0.68	0.38	-4.56	-1.14	-0.49	-3.17	0.38	-2.85	-1.89	-0.14	-1.85	-1.58	-1.81	-1.43	-0.26	-1.00	-4.69	-0.58	-2.74	-0.77	-1.00	-2.46	-1.20	0.49	-0.93	-1.26	-0.85
Small Intest (6991)	0.26	0.77	-1.07	-0.49	0.38	-4.96	-1.49	-0.38	-4.39	0.14	-3.57	-1.54	-0.38	-1.68	-2.58	-1.93	-1.68	-0.14	-1.43	-5.78	-0.77	-2.43	-1.14	-1.00	-2.00	-1.38	0.38	-0.49	-0.85	-1.20
Stomach (6990)	-0.93	89.0	-0.49	-0.77	0.00	-2.74	-1.00	-0.26	-2.46	-0.14	-3.94	-1.32	-0.38	-0.14	-2.66	-1.54	-1.14	0.00	-2.38	-4.02	0.00	-2.58	-1.07	-0.49	-1.58	-0.77	-0.14	-0.26	-1.38	-0.68
Stomach (6989)	-0.49	-0.14	-0.38	-0.49	0.00	-3.94	-0.26	-0.14	-1.81	0.00	-3.49	-1.32	-0.49	-1.00	-0.68	-1.43	-0.93	0.00	-1.54	-3.88	-0.26	-2.66	-0.68	-0.77	-1.38	-0.68	0.26	-0.49	-0.68	-1.20
Ovary (1119)	-1.07	×	-0.26	0.00	×	-4.56	-1.32	0.26	-3.36	0.77	-3.42	-1.85	-0.77	-1.32	-1.68	-2.10	-2.38	0.77	-2.10	-4.36	-1.93	-3.23	×	×	-2.46	-0.77	0.14	-1.32	-1.58	-1.54
Uterus (6988)	-1.26	-0.26	-1.07	-0.38	-0.26	-4.81	-1.43	-I.68	-3.84	0.38	-3.19	-1.93	-1.00	-1.68	-1.43	-1.89	-2.20	-0.14	-0.49	-4.07	-1.77	-2.89	-0.68	-0.58	-2.46	-1.07	-0.14	-1.14	-1.77	-1.32
Uterus (6987)	-1.32	-0.14	-0.93	-0.68	0.00	-4.55	-1,49	-1.07	-3.83	0.26	-3.31	-1.85	-0.85	-1.26	-2.14	-2.07	-2.41	-0.14	-0.14	-4.55	-1.77	-2.85	-0.85	-0.38	-2.10	-0.68	-0.26	-0.93	-1.49	-1.49
Thigh (4071)	-1.07	0.49	0.00	0.14	0.38	-4.20	-1.32	-1.43	-3.63	-1.58	-2.89	-1.72	-0.77	-1.54	-2.32	-1.54	-1.81	-0.38	-1.93	-3.91	-1.00	-2.54	-0.38	-0.68	-2.07	-0.85	-0.38	-0.58	-1.43	-0.58
Tibia (376)	-1.07	0.68	0.26	0.38	0.49	-3.78	-1.07	-1.38	-3.42	-1.07	-2.41	-1.54	-0.49	-0.77	-0.77	-1.38	-1.68	-0.26	-1.85	-3.86	-1.38	-2.10	0.00	-0.26	-0.38	-0.14	-0.38	-0.68	-1.32	-0.38
Skeletal Muscle (6986)	-0.93	89.0	0.26	1.07	99.0	-4.17	-1:00	-1.58	-3.31	-1.43	-2.81	-1.32	-0.77	-1.07	-1.72	-1.26	-1.49	-0.58	-2.58	-4.1	-1.72	-2.20	-0.26	-0.68	-1.96	-0.93	-0.26	-0.38	-1.20	-0.26
Heart (B7015)	0.26	0.14	-0.38	0.93	0.49	-4.73	-0.68	-0.93	-4.34	-1.32	-4.51	-0.85	-1.43	-0.58	-2.89	-1.68	-1.26	0.14	-2.00	-4.51	-1.43	-2.10	-1.49	-0.77	-1.96	-1.89	0.38	-0.77	-0.77	-2.20
Heart (1822)	-0.26	-0.26	-0.14	0.38	-0.14	-4.22	-1.00	-1.54	-3.75	-1.14	-3.09	<del>.</del> 81	-1.20	-0.26	-2.10	-1.49	-1.00	-0.38	-1.43	-4.39	-1.14	-2.79	-0.77	-0.38	-2.35	-0.58	-0.14	-0.49	-1.43	-0.68
Ventricle (122)	0.14	0.58	0.14	0.77	0.58	4.14	-0.77	-1.49	-3.54	-1.54	-3.02	-1.32	<del>-</del> 00.	-1.14	-2.49	-1.07	-0.49	0.26	 18:T-	4.31	-0.14	-2.58	-0.77	-0.38	-2.77	-0.85	-0.26	0.26	-1.20	-0.85
Clone ID	234123	1833801	1923613	2058620	1930954	1511658	2590673	1995380	167409	1846226	2052185	2517389	911015	604856	1448718	2517268	167134	2843638	1813269	1861971	2005973	2515729	2132356	1001726	2631845	86390	1287840	2516905	606122	3553733

Table 3

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Lung (3779)	-2.43	0.00	-1.07	-2.58	-1.07	-2.17	0.00	-1.14	-2.56	-2.43	0.38	-0.77	-0.85	-1.14	0.14	-1.81	-1.68	0.38	-2.00	-1.14	-1.07	-2.85	-0.58	-2.49	-2.07	0.38	-2.43	0.00	-0.77	
Colon (6392)	-2.83	-0.26	1.49	0.85	0.77	0.68	1.58	0.1	0.68	1.32	1.07	1.58	0.77	1.85	-3.10	-2.29	0.14	0.14	00.0	-1.43	-2.72	-3.61	-0.26	-3.22	-2.04	0.85	-0.49	-1.54	-0.68	,,,,
Small Intest (6991)	-2.29	-0.49	0.58	2.00		0.77	1.20	0.93	0.14	1.26	1.14	1.20	0.77	1.63	-2.10	-2.23	0.00	0.00	-0.49	-1.20	-1.96	-2.56	-0.14	-2.29	-1.89	0.58	-0.38	·1.00	-0.58	11::
Small Intest (6991)	-2.70	-0.68	1.32	0.14	0.49	-0.68	1.49	0.49	0.49	0.1	1.58	1.26	0.14	1.63	-3.55	-1.72	-0.26	0.38	-0.14	-0.93	-2.85	-3.25	-0.77	-2.98	-2.17	0.38	-0.26	-1.07	-0.68	
Stomach (6990)	-2.49	-0.49	0.00	-3.28	-1.77	-3.07	0.38	-1.63	-0.14	-0.68	0.00	-1.43	-1.20	-2.23	-2.83	-1.63	-1.63	-0.58	-2.14	-1.72	-1.93	-3.12	-0.77	-2.94	-1.96	0.26	-2.49	-0.49	-1.07	
Stomach (6989)	-2.20	-0.38	-0.26	-2.32	-1.63	-2.46	0.14	-1.20	-0.38	-0.85	0.00	-0.77	-1.43	-1.14	-2.41	-1.93	-1.58	-0.26	-1.93	-1.43	-1.89	-2.46	-0.93	-2.54	-1.93	0.58	-2.81	-0.85	-1.38	
Ovary (1119)	-1.81	1.96	.1.32	-2.43	-1.32	-2.20	0.58	-1.32	-2.77	-2.35	-1.38	89.0	-3.35	-2.26	-2.17	-2.00	-1.63	0.14	×	-2.07	-1.96	-2.81	-1.38	-3.04	-1.54	-1.58	-3.05	-1.07	-1.54	
Uterus (6988)	-2.17	1.20	-1.49	-2.77	-1.26	-2.26	-1.49	-1.07	-2.66	-3.41	-1.68	-0.14	-3.22	-2.58	-2.96	-1.77	-1.32	-1.43	-2.91	-2.07	-2.10	-3.09	-1.63	-2.98	-1.38	-1.72	-3.47	-1.38	-0.68	
Uterus (6987)	-2.23	0.77	-1.68	-2.79	-1.26	-2.14	-1.14	-1.14	-3.10	-3.14	-1.49	-0.14	-3.23	-2.85	-2.98	-1.63	-1.43	-1.32	-3.20	-1.85	-2.04	-3.29	-1.58	-2.93	-1.54	-1.81	-3.09	-1.14	-0.77	
Thigh (4071)	-1.81	<del>.</del> 00.	-1.20	-2.10	-0.38	-1.89	-1.20	-1.07	-2.17	-3.25	-1.38	-1.26	-2.81	-2.35	-2.20	-1.58	-1.68	-1.77	-2.66	-1.58	18:1-	-2.89	-1.68	-2.41	-1.89	-1.26	-2.61	-1.26	0.58	
Tibia (376)	-1.38	-0.85	-0.58	-2.04	-0.77	-1.43	-1.07	-0.77	-1.96	-2.20	-1.14	-1.20	-2.74	-2.04	-1.72	-1.26	-1.07	-1.32	-1.81	-1.26	-1.43	-2.58	-0.85	-2.07	-1.26	-1.00	-2.23	-1.00	1.20	
Skeletal Muscle (6986)	-1.77	-1.07	-1.38	-2.23	-0.58	-1.72	-0.77	-1.81	-2.07	-3.32	-0.93	-1.20	-3.02	-2.23	-2.10	-1.43	-1.85	-1.63	-2.58	-1.32	-2.14	-2.70	-1.58	-2.72	-1.07	-1.32	-2.72	-1.43	0.58	
Heart (B7015)	-2.20	8.7	-1.93	-2.56	-0.38	-1.93	-0.68	-2.20	-3.54	4.39	-1.49	-0.93	-3.20	-3.25	-2.68	-1.85	-1.20	-0.68	-2.26	 8:	-1.77	-2.43	-3.19	-3.25	-2.10	-2.14	-2.81	-1.38	-2.07	
Hean (1822)	-1.20	-0.85	-1.8]	-2.94	-1.43	-3.36	-1.20	-2.23	-2.51	-3.43	-1.49	-1.93	-2.29	-2.20	-2.38	-1.49	-1.77	-1.07	-2.14	-1.32	-I.96	-2.46	-1.93	-2.49	-1.43	-1.38	-3.07	-1.26	-0.93	
Ventricle (122)	0.14	-1.58	-1.81	-2.61	-1.38	-3.82	-0.68	-1.49	-2.32	-3.63	-1.43	-2.35	-2.26	-2.14	-2.14	-1.14	-1.20	-1.26	-2.10	<del>.</del> 8	-2.04	-2.29	-1.77	-2.26	-1.49	-1.07	-2.51	-0.93	-0.93	
Clone ID	1813381	1988108	1644648	2516104	2516448	2514507	1427470	1311471	195142	29598	1968576	2959255	446969	1631511	1508741	2513602	1981145	2103752	2658782	2099420	637639	279249	1379063	89747	2515873	1432372	1633719	1712663	4285203	

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Lung (3779)	-0.38	9.1-	-0.85	-1.32	0.93	0.38	-0.14	0.85	0.00	-3.42	-1.93	-0.77	-1.38	-2.35	1.20	-1.00	-1.38	-2.83	-1.93	-4.73	-3.52	-5.19	-3.88	-3.89	-0.58	-4.29	-4.22	-0.58	0.49	-0.68
Colon (6392)	-1.14	-0.58	-1.32	-1.96	-1.81	-1.49	00.0	0.38	1.58	-3.68	1.49	1.38	1.72	1.14	-1.20	-1.77	-2.07	-3.23	-2.04	-6.02	-4.87	-6.31	4.38	-5.76	-0.14	-5.29	-4.88	8:	0.49	0.58
Small Intest (6991)	-1.07	-0.77	-1.07	1.81	-1.32	-1.26	-0.14	0.38	0.1	-3.67	1.72	1.14	8.	0.85	-0.93	-1.63	-1.96	-2.77	-2.10	-5.60	-4.38	-6.14	-4.13	-5.41	-0.26	-4.96	-5.10	-0.93	99.0	-0.14
Small Intest (6991)	-1.26	-0.38	-1.26	-2.04	-1.96	-1.38	-0.14	0.14	1.14	-3.63	00.1	1.20	1.54	0.93	-1.38	-1.81	-2.56	-3.57	-2.43	-5.93	-5.29	-6.26	-4.27	-5.76	-0.49	-5.41	-4.65	-0.58	0.38	0.49
Stomach (6990)	-0.93	-0.58	-1.07	-1.68	-1.89	0.58	00.0	1.07	-0.49	-3.29	-2.20	-0.77	-0.85	-2.14	-0.38	-1.32	-2.10	-2.77	0.00	-5.26	-4.25	-6.05	-2.41	-4.93	-1.81	-5.03	-4.98	-1.20	0.49	-0.14
Stomach (6989)	-1.14	-0.38	-1.07	-1.07	-1.38	-0.26	0.00	0.93	-0.26	-3.14	-0.68	-0.77	-0.77	-2.29	-0.26	-1.00	-2.00	-2.14	-1.14	-4.94	-4.32	-6.13	-3.09	-4.93	-0.85	-4.78	-4.66	-0.93	0.58	0.49
Ovary (1119)	-1.26	-1.14	-1.20	×	-0.77	-1.85	×	×	-0.38	-3.68	-1.49	-0.49	-1.14	-2.68	-1.26	-1.58	-1.38	-2.23	-2.38	-4.89	4.68	-5.88	4.41	-4.97	-1.89	-4.66	-4.36	-1.49	0.85	1.54
Uterus (6988)	-1.07	-0.26	-1.20	-1.93	0.93	-1.26	-0.26	-1.00	-0.26	-3.68	-2.14	-1.14	0.00	-2.79	-1.38	-1.32	-1.68	-3.51	-2.07	-5.28	-4.34	-5.57	-3.96	-4.34	-2.07	-4.69	-4.12	-1.58	-0.58	1.32
Uterus (6987)	-0.93	-0.14	-1.20	-1.81	-0.14	-1.49	-0.49	-1.14	0.00	-3.86	-2.10	-1.07	-0.58	-2.74	-1.68	-1.54	-2.04	-3.50	-2.38	-5.28	-4.28	-5.74	-4.12	-4.18	-2.07	-4.78	-4.15	-1.32	-0.58	1.32
Thigh (4071)	-0.77	-1.43	-0.77	-1.68	-1.07	-1.14	-0.26	-1.07	-0.49	-3.26	-2.07	-1.54	-0.77	-2.46	-1.26	0.00	-1.58	-2.83	-2.04	-4.51	-3.58	-5.05	-3.77	-3.68	-1.58	-4.28	-3.98	-1.20	-0.85	0.93
Tibia (376)	-0.38	-0.85	-0.77	-0.58	-0.58	-1.00	0.14	-0.38	-0.49	-2.74	-1.00	-1.07	-0.58	-1.77	-1.00	0.00	-0.49	-1.77	-1.32	-4.55	-3.77	-4.96	-3.31	-3.78	-0.85	-3.87	-3.09	-1.26	-0.49	1.26
Skeletal Muscle (6986)	-0.58	-1.43	-0.77	-1.49	-1.58	-1.00	-0.14	-0.68	-0.93	-3.28	-1.85	-1.63	-0.49	-2.66	-1.43	0.26	-1.85	-3.05	-2.17	-4.38	-4.61	-4.49	-3.87	-4.49	-1.49	-4.34	-3.85	-0.93	-1.07	1.07
Неал (В7015)	-0.58	-1.49	-1.07	-2.63	0.49	-0.85	0.00	-1.77	-0.58	-2.35	-2.70	-0.49	-1.26	-3.34	-1.14	-0.85	-2.38	-2.89	-2.14	-4.26	4.04	-5.94	-3.75	-5.39	-2.63	-5.25	-2.89	0.49	-0.85	0.49
Неап (1822)	-1.07	-1.07	-0.85	-1.54	0.00	-1.43	0.38	-0.68	-1.00	-2.98	-1.72	9.1-	:1.26	-2.66	-1.07	-0.58	-1.89	-2.74	-1.54	-4.94	-3.75	-5.97	-4.61	-4.87	-1.96	4.93	-4.90	-0.93	-0.58	0.26
Ventricle (122)	-0.77	-1.54	-0.58	 2	0.14	-0.93	0.49	0.00	-0.49	-3.12	-1.68	-0.58	-1.00	-2.61	-1.32	-0.38	18.1-	-2.74	-1.81	-4.79	-3.60	-5.75	-4.33	-4.67	-1.43	-4.72	-5.04	-0.77	-0.68	0.49
Clone ID	1418871	3766382	943181	603761	1297562	2910715	196975	1453049	1968695	958344	2820985	1633393	1806451	2674772	1376121	831794	1427681	2912830	504786	254081	1330674	2377834	2075464	2383235	1285503	2383205	2015871	2374046	1709828	2061119

Lung (3779)	-3.00	-2.85	-2.72	-2.54	-3.79	-5.96	-5.18	-1.20	-1.81	-2.89	-3.35	-5.13	-1.32	-0.85	-0.26	-2.14	89.0	1.07	-1.07	-0.77	-2.07	-1.07	-1.72	8.1.	-0.77	-0.14	-0.85	1.38	-0.93	-0.93
Colon (6392)	-2.87	-2.17	-3.02	-2.07	-5.38	-4.61	-3.29	1.43	0.85	-2.14	2.56	-0.68	-2.17	-1.81	-0.77	-1.54	0.38	0.49	0.00	2.20	-1.32	-2.26	-1.96	1.20	-0.85	-0.49	-1.38	-0.93	-0.58	1.07
Small Intest	-2.66	-1.63	-3.00	-2.04	-4.98	-5.04	-3.79	1.26	0.00	-2.38	1.58	-0.68	-2.56	-1.54	-1.07	-1.58	0.49	0.49	-0.49	0.93	-1.26	-1.89	-1.68	1.32	-0.77	0.14	-0.77	-0.85	-0.58	0.49
Small Intest	-2.61	-3.14	-3.41	-2.56	-5.48	-5.34	-3.92	0.77	0.26	-2.29	1.14	-2.46	-2.04	-1.72	-0.68	-2.00	0.14	0.14	-0.58	-0.77	-1.49	-3.04	-1.58	1.14	-1.20	-0.38	-1.63	-0.77	-0.14	89.0
Stomach (6990)	-3.25	-2.89	-3.19	-1.77	-5.38	-6.41	-5.17	0.93	0.00	-0.26	-1.26	-2.14	-0.58	-1.77	-0.68	2.07	0.77	0.49	-0.49	2.38	-0.68	-2.66	-2.29	-0.68	-0.14	-0.49	-1.00	-0.68	-0.38	-0.14
Stomach (6989)	-3.00	-2.70	-3.31	-1.96	-4.29	-5.93	-4.81	89.0	-0.14	-0.77	0.38	-1.81	-1.00	-1.68	-0.68	1.38	0.49	0.14	-0.68	2.46	-1.26	-1.54	-2.00	-0.14	-0.58	-0.58	-1.32	-0.26	-0.49	0.26
Ovary (1119)	-3.75	-3.14	-3.02	-2.85	-4.47	-6.11	-5.05	-1.89	0.93	-3.99	-4.02	-5.80	-1.00	-1.77	-0.58	-2.51	-0.38	-0.93	-0.68	-1.81	-1.93	-0.77	-2.17	-0.14	0.14	0.26	-1.26	-0.38	-1.54	-0.26
Uterus (6988)	-3.63	-3.36	-2.79	-2.56	-4.74	-6.35	-5.16	-1.32	0.00	-3.09	-3.23	-5.82	-3.05	-1.49	-0.77	-1.20	-0.14	-0.38	1.20	-1.72	-1.63	-0.77	-1.85	-0.38	-0.38	-0.49	-1.00	-0.38	-1.32	0.14
Uterus (6987)	-3.45	-3.23	-3.05	-2.58	-4.47	-6.36	-5.09	-1.93	-0.26	-3.22	-3.45	-5.71	-2.43	-1.49	-0.58	-1.14	0.00	-0.14	1.38	-1.93	-1.77	-0.77	-1.96	-0.77	0.00	-0.14	-1.20	-0.14	-1.14	0.00
Thigh (4071)	-3.32	-3.09	-2.35	-2.49	-4.12	-5.49	-4.69	-2.00	-1.85	-3.43	-3.25	-5.13	-2.41	-1.26	-1.07	-2.87	0.00	-0.49	-0.68	-1.26	-1.32	-0.93	-2.20	-1.00	0.14	0.00	-0.68	-1.43	-1.00	-1.26
Tibia (376)	-2.87	-2.94	-2.77	-1.85	-1.85	-5.71	4.52	-1.89	-1.58	-2.72	-2.61	-4.84	-1.93	-0.85	-0.77	-1.85	-0.38	-0.26	-0.58	-0.38	-1.32	-0.93	-1.77	-0.85	0.49	0.26	-0.49	-0.93	-0.93	-0.85
Skeletal Muscle (6986)	-2.98	-3.38	-3.05	-2.51	-4.50	-6.41	-5.27	-1.58	-1.93	-2.83	-3.12	-5.68	-2.49	-1.07	-1.07	-2.87	-0.38	-0.68	-0.85	-1.72	-1.63	-0.93	-1.77	-0.68	0.26	0.14	-0.93	-1.77	-0.85	-1.00
Heart (B7015)	-4.06	-4.01	-2.43	-1.26	-5.52	-5.57	-3.51	1.20	-1.07	-2.74	-2.61	-5.69	-1.77	-2.23	<del>-</del> 8:	-2.74	-0.38	-1.68	-1.32	-3.02	-2.54	-0.93	-0.58	-0.85	-1.07	-0.49	-1.68	-1.00	-0.14	-1.26
Неап (1822)	-2.56	-3.34	-2.85	-2.14	-5.44	-6.31	-5.87	2.20	-1.26	4.35	-3.74	-6.51	-1.32	-1.54	-0.77	-2.72	-0.49	-1.00	0.00	-1.38	-1.20	-0.68	-1.93	-0.93	-1.14	-0.14	-1.07	-0.68	-0.85	-0.58
Ventricle (122)	-2.41	-3.15	-3.02	-2.00	-5.43	-6.27	-6.01	1.38	-1.58	-3.91	-3,43	-6.10	-0.14	-1.20	-0.77	-2.66	-0.38	-0.68	-1.14	-1.38	-1.32	-1.49	-1.58	-0.38	-0.93	0.0	9.	-1.14	-0.14	-0.49
Clone_ID	3665105	2068983	2242648	885032	2383830	2085191	2792982	179929	2741788	2373608	2182095	2923150	293495	4284270	958923	1921393	1447866	1666737	586245	194162	243123	382416	1852659	3220181	1726307	1904244	2039955	2675641	1412749	1963854

Table 3

Table 3

	Ventricle	Heart	Heart	Skeletal	Tibia	Thigh	( Jenis	l Irens	Ovar.	Stomach	Cromoch	Small	Small	100	1
	(122)	(1822)	(B7015)	Muscle	(376)	(100)	(2009)	(000)	61.15	COOR	Stolliacii	Intest	Intest	Colon	guna
Clone ID		(7701)	(010/0)	(9869)	(0/2)	(1/0+)	(1960)	(0986)	(4111)	(6869)	(0669)	(1669)	(1669)	(6392)	(3779)
1986737	-1.32	-0.49	-1.07	99.0	0.26	-0.14	-1.26	-0.77	1.96	-1.63	-2.10	-1 54	1.54	-1 20	1 63
2506867	-2.38	-1.49	-3.04	-1.49	-1.00	-2.04	-2.07	-0.77	-0.49	-2.41	-2.61	-2.04		181-	20.5
1211682	1.38	0.85	89.0	-1.96	-1.54	-2.04	-1.81	-1.85	-1.14	-1.26	-1.43	-0.49	-0.38	-0.49	2 10
1416354	2.10	0.49	1.32	-1.43	-0.93	-1.58	-1.00	-0.85	-1.43	-1.54	-1.63	.1.20	1.00	-1.14	- 38
2963962		0.77	89.0	-1.07	-0.38	-1.20	89.0	1.49	-0.38	-0.58	-0.93	-0.93	-0.85	0-68	-143
1761086	0.14	0.14	-0.49	0.49	0.00	0.14	.1.93	-2.00	-2.26	-0.14	-0.26	0.68	0.93	0 03	25
2588552	·	-0.77	-2.29	8.	0.26	0.38	-1.89	-1.89	-1.77	-0.49	-0.85	-1.85	90	17.1	2
1901271	-1.38	-1.00	-1.89	-2.63	-2.17	-2.07	-1.43	-1.43	-0.68	-0.93	-0.77	0.14	0.77	0.68	890-
1740924	-0.14	-0.58	-0.49	-0.68	-0.85	-0.85	-1.14	-1.26	-1.00	-0.58	-0.58	-0.68	-0.77	-1.20	-0.68
1480159	-1.68	-1.58	-2.04	-1.00	-0.93	-1.00	-1.93	-1.54	-1.77	-1.77	-1.63	-1.77	-1.20	-1.32	-1.38

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Striatum (3971)	-1.07	-0.49	0.14	-0.68	-0.14	-2.23	-2.72	0.38	0.26	-2.20	-1.14	-1.89	-1.85	-0.77	18:1-	4.08	-0.93	-1.43	-2.58	-2.49	0.68	0.85	-0.26	0.38	-0.49	-0.93	0.49	-0.49	1.07	-3.69
Brain (7000)	-0.93	0.77	0.14	-1.14	0.58	-2.83	-3.38	0.26	0.26	-3.25	-1.00	-2.61	-2.14	-0.58	-1.32	-4.63	-1.20	-2.14	-2.29	-3.45	1.00	1.26	-0.26	1.20	0.38	-1.26	1.07	-1.49	0.68	-4.69
Brain (6999)	-0.77	0.26	0.58	-0.85	1.32	-2.14	-3.15	0.49	-0.38	-3.22	-0.26	-3.17	-1.43	0.14	-0.58	-4.45	-0.38	-1.54	-1.85	-3.12	1.38	1.38	-0.38	1.58	89.0	-0.68	8.	-1.20	0.68	-4.71
Spleen (6998)	-0.49	-0.49	0.00	-0.26	-1.38	-2.23	-2.38	-1.77	-0.14	-2.49	-1.89	-1.81	-3.29	-1.00	-0.93	-3.68	-0.85	-1.54	-1.89	2.77	-1.81	-2.61	-1.49	-0.58	-1.20	-1.20	-0.49	0.14	-1.43	-3.35
Spleen (6998)	-1.26	-0.14	-1.32	0.00	-2.10	-2.20	-2.35	-1.38	0.00	-2.89	-2.63	-2.07	-3.12	-1.58	-2.68	-3.69	-1.07	-1.68	-1.89	0.14	-1.43	-2.23	-1.32	-1.68	-2.46	-1.14	0.14	-0.58	-1.07	4.04
Spleen (6997)	-1.00	-0.14	-0.49	0.14	-1.63	-2.26	-3.00	-1.81	-0.68	-2.56	-2.58	-2.29	-3.66	-1.32	-1.38	-3.96	-1.26	-0.93	-2.70	0.85	-2.00	-2.87	-1.58	-0.58	-1.93	-1.54	-0.38	0.00	-1.07	4.19
Pancreas (6996)	-1.00	-0.49	-1.77	0.93	-1.58	-2.14	-2.77	-0.58	-0.58	-2.32	-1.68	-1.96	-3.19	-1.26	-2.83	-3.68	97:0	-2.10	-1.96	-2.43	-0.26	-0.49	-1.26	-1.93	-1.77	-1.20	-0.77	-0.26	-1.81	-4.39
Kidney (6995)	0.77	-1.43	0.38	-1.14	0.49	-2.77	-3.07	-2.10	0.00	-2.83	-0.49	-2.41	-2.20	89.0	-0.85	-4.38	-1.00	-1.96	-1.81	-2.43	-1.81	-2.23	-0.14	-1.00	-0.14	-1.77	-1.32	-0.68	-0.26	-4.57
Kidney (6994)	0.49	-1.38	0.00	-0.77	0.26	-2.32	-2.93	-1.93	-0.26	-3.75	-0.77	-2.35	-2.43	0.38	-1.20	-4.19	-0.77	-1.58	-1.96	-2.77	-1.77	-2.17	-0.38	-1.32	-0.77	-1.72	-0.58	-0.93	-0.38	-4.63
Kidney (6993)	00:1	-1.49	0.00	-1.00	0.85	-2.51	-2.91	-2.49	-0.14	-3.00	0.00	-2.41	-1.63	0.93	-0.26	-4.17	-0.85	-1.58	-1.85	-2.54	-1.20	-1.54	-0.38	-1.07	-0.26	-2.14	-1.07	-0.68	0.77	-4.68
Liver (2147)	0.58	-1.14	-1.89	-0.14	0.49	-2.14	-2.70	-1.58	-0.49	-2.72	-2.04	-2.14	-3.20	0.49	-2.85	-3.39	-0.68	-1.72	-1.93	-2.54	-1.26	-2.74	-1.14	-2.81	-1.89	-1.58	-1.20	-0.26	-1.20	-4.10
Liver (4133)	1.07	-1.63	-1.32	-0.68	18.1	-2.66	-2.85	-2.07	-0.77	-2.66	-1.58	-2.38	-3.45	0.26	-3.15	4.03	-0.68	-1.81	-2.00	-1.63	-2.23	-2.94	-0.26	-2.23	-2.14	-1.68	-1.32	-0.49	0.14	4.33
Liver (4209)	89.0	-1.38	-1.38	-0.38	1.26	-3.05	-2.93	-1.32	-0.68	-2.43	-2.32	-2.43	-3.51	-0.68	-3.25	-4.03	-0.77	-1.93	-2.29	-1.93	-1.43	-2.81	-1.20	-2.85	-2.23	-1.68	-0.85	-0.85	-0.14	-3.83
Lung (2152)	-0.77	0.0	0.26	0.0	-1.77	-2.38	-2.51	-1.54	-0.58	-2.91	-1.63	-2.54	-3.51	-1.77	-2.81	-2.51	-1.38	-2.17	-2.56	-0.58	-1.58	-1.93	-0.26	-1.77	-1.32	-1.58	-1.14	-0.68	-0.38	4.25
Lung (2881)	-0.93	-0. 4	0.14	0.14	-1.93	-2.79	-2.91	-1.58	-0.49	-2.85	-1.68	-2.07	-3.57	-2.04	-3.05	-0.68	-1.38	-2.29	-2.46	-0.68	-1.58	-1.49	-0.38	-1.85	-1.32	68.1-	-0.85	-0.85	-0.77	-3.17
Clone ID	2380381	1618422	2672064	608361	1922596	1850033	286987	718807	2880435	187326	1997963	467700	57382	1222442	4013105	924319	1645119	1379925	1960061	3506985	551403	3948420	1722853	1557490	3208425	1668474	1622542	4014318	2394888	1345550

(4200) (4133)	Liver Kidney	y Kidney	Kidney	Pancreas	Spleen	Spleen	Spleen	Brain	Brain	Striatum
			(9669)	(9669)	(2669)	(8669)	(8669)	(6669)	(7000)	(3971)
	-0.77		-0.85	-3.10	-2.83	-3.12	-2.29	-0.49	-1.14	.1.26
			-0.85	-0.26	-0.68	-0.93	-0.38	-1.20	-1.20	-0.68
			-0.26	0.00	-1.20	-1.00	97.	0.00	-0.14	-0.68
•			0.49	0.49	-0.77	-0.58	-0.38	0.49	-0.26	-0.14
'	_		-3.28	-3.74	-3.52	-3.31	-3.26	-2.93	-3.39	-2.66
`•'			-3.94	-3.78	-3.54	-3.93	4. 20.	-3.31	-4.38	-3.91
₹			0.00	-1.00	-1.07	-1.26	-0.38	0.26	-0.26	-0.26
<del>-</del>			0.58	-0.49	-0.58	-0.93	-0.14	-0.77	-1.07	-0.38
o,			0.00	-0.77	-0.38	-0.58	0.38	0.38	0.00	0.38
ů.			4.26	-4.39	-3.87	-4.34	-3.85	1.71	-5.00	-3.80
-2.4			-1.43	-2.10	-2.20	-1.63	-1.58	1.43	89.0	-0.58
0.1	_		0.38	-0.58	-0.93	-0.58	-0.38	-0.38	-0.49	-0.26
<u>-</u> .			-0.38	-2.14	-1.26	-1.49	-0.93	0.49	-0.26	-0.38
-1.0	0.00	-0.26	0.26	-0.49	-0.26	-0.49	0.26	-0.38	-0.77	-0.14
-0.68			-1.32	-0.77	-0.85	-0.77	-1.20	-0.77	-0.85	-0.38
-3.35	<del>-</del>		-3.26	-3.32	-2.66	-3.42	-2.51	-3.20	4.17	-2.85
-1.54			-0.26	-1.58	-1.00	-1.26	-0.58	-0.14	-0.58	-0.58
-2.51			-3.47	-1.77	-2.72	-2.68	-2.10	-3.20	-3.55	-2.35
-2.91			8:	-2.14	-0.58	<del>.</del> 00.	-0.26	1.43	0.93	0.58
-1.43			-0.58	-0.93	-1.32	-1.72	-0.58	-0.38	-0.77	-0.49
-0.58	-		-0.93	-0.77	-0.49	-0.58	-0.68	0.14	0.00	0.14
-3.9			-4.25	-4.59	-3.86	-4.21	-4.21	-3.80	-4.64	-3.64
<del>-</del>			-0.93	×	-0.58	-0.38	-0.49	1.54	1.32	0.26
<del>.</del> 30			-3.34	-2.72	-2.94	-2.70	-2.63	-2.70	-3.52	-2.72
-3.5			-4.36	-3.51	-2.81	-3.96	-3.47	-3.42	-4.02	-2.79
-1.5			-2.56	×	-1.77	-1.54	-1.54	-1.32	-1.43	-0.85
-0.9			-1.07	-0.93	-1.72	-1.20	-1.14	-1.20	-1.49	-1 68
7			-2.35	-1.72	-1.43	-2.14	-1.96	-2.07	-1.89	-101
-1.2		•	-1.49	-0.93	-1.68	-1.38	-1.32	-2.10	-2.04	-1.07
-2.0			1 80	200	101			:		-

F -	Т						_	_				_							_				-		_			·		_
Striatum (3971)	-2.14	-0.68	-0.38	-2.14	.5.19	-2.04	-3.38	-5.46	-3.92	-0.58	.1.07	-3.02	0.00	-1.68	-2.72	0.26	-1.14	0.49	-1.00	0.58	-1.20	-2.58	-2.46	-2.20	-0.14	-0.93	-1.81	.1.00	-3.04	
Brain (7000)	-2.32	-0.26	0.14	-2.26	-5.87	-2.83	-4.45	-5.88	-5.95	-0.38	-1.49	-3.68	0.14	-2.66	-3.78	-1.00	-1.38	1.07	-1.26	-0.14	-1.00	-3.09	-2.89	-3.09	-0.38	-0.77	-2.00	-1.14	-3.15	
Brain (6999)	-1.81	0.49	0.26	-1.93	-5.57	-2.63	-4.15	-5.71	-5.61	0.00	-1.20	-3.81	0.26	-2.74	-3.58	-0.14	-0.85	1.77	-1.20	-0.14	-1.00	-2.74	-3.51	-3.00	0.14	-0.49	-5.00	-0.26	-3.10	
Spleen (6998)	-2.41	-1.07	-1.26	0.14	-4.24	-2.51	-3.57	4.64	-4.15	-2.07	-1.14	-3.34	-0.77	-0.85	-2.72	-2.38	-1.38	-0.38	-0.38	-0.49	-1.20	-1.58	-1.26	-0.93	-0.38	0.14	-0.93	-0.58	-1.26	
Spleen (6998)	-2.98	-2.23	-1.63	-1.81	-4.82	-2.63	-3.57	-4.97	-4.60	-2.23	-2.17	-3.83	-1.58	-1.93	-3.25	-2.77	-2.35	-0.77	-1.26	-2.07	-1.58	-2.79	-2.10	-2.38	-1.38	-0.26	-1.26	-1.38	-2.70	
Spleen (6997)	-2.58	-1.58	-1.38	0.00	-5.07	-2.61	-3.79	-4.78	-3.75	-1.93	-1.72	-3.19	-1.54	-1.63	-2.87	-2.49	.1.77	-0.85	-1.20	-1.43	-1.63	-2.20	-1.68	-1.54	-1.07	0.00	-1.20	-1.14	-2.72	
Pancreas (6996)	-3.25	-1.89	1.81	-1.85	-4.95	-1.72	-3.41	-5.36	-4.69	-2.41	-0.26	-3.42	0.38	-2.38	-3.81	-1.85	1.54	9:	-2.00	-1.85	-1.93	-2.04	-2.38	-2.20	-2.23	-0.93	-1.43	-2.54	-3.63	-
Kidney (6995)	-3.04	0.49	-1.68	-0.14	-5.54	-2.94	-4.06	-4.98	4.84	-0.85	99.0	-3.51	-0.58	-2.66	-2.61	1.54	-0.26	-1.26	-0.77	-1.54	-0.14	-1.20	-0.14	-0.77	-1.68	0.14	-0.14	-1.14	-1.32	-
Kidney (6994)	-3.17	0.00	-1.93	-0.93	-5.79	-2.96	-4.30	-5.06	-5.50	-0.93	0.26	-2.68	-1.26	-3.00	-3.39	0.58	-0.68	-1.54	-1.38	-1.89	-1.32	-2.56	-2.94	-2.49	-2.07	-0.58	-1.43	-1.85	-3.05	•
Kidney (6993)	-3.35	99.0	-1.49	-0.49	-5.36	-2.41	-4.39	-5.02	-5.22	-0.49	1.20	-2.94	-0.93	-2.61	-3.04	1.49	-0.14	-1.38	-1.07	-1.00	-0.26	-1.68	-1.93	-1.93	-1.77	-0.38	0.00	-1.58	-1.72	
Liver (2147)	-3.58	1.07	-1.81	-2.46	-5.04	-1.72	-2.29	-5.09	-4.76	-2.43	-1.72	-2.46	-0.93	-2.14	-3.77	0.85	89.0	-1.00	-1.07	-2.49	-2.54	-3.78	-2.51	-2.77	-2.17	-0.85	-2.04	-2.23	-4.34	- 60 6
Liver (4133)	-3.15	1.32	-1.54	-1.77	-5.06	-2.10	-3.60	-5.26	-3.61	-2.56	-0.14	-3.15	-0.38	-2.14	-3.88	0.26	0.85	-1.26	-1.00	-2.72	-2.04	-3.23	-2.89	-2.43	-2.54	-1.07	-1.77	-1.49	-3.90	
Liver (4209)	-3.10	0.93	-1.96	-1.77	-5.12	-0.38	-3.87	-5.36	-4.13	-3.02	-1.14	-3.56	-0.58	-2.10	-4.17	-0.14	0.00	-1.07	-1.38	-2.58	-2.41	-3.42	-2.14	-2.43	-2.54	-1.07	-2.14	-1.63	-3.56	200
Lung (2152)	-1.77	-1.32	-1.49	0.0	-5.41	-3.09	-3.72	-5.37	-3.94	-1.77	-1.43	-3.38	-0.49	-2.29	-2.61	-3.07	-1.07	-1.20	-0.68	-0.77	-0.58	-2.07	-0.93	0.38	-0.38	-0.38	0.00	0.58	-1.54	
Lung (2881)	-1.43	-1.68	 18:-	0.0 0.0	-5.27	-2.93	-3.94	-5.54	4.13	-2.26	-1.85	-3.56	-0.85	-1.81	-2.66	-3.12	-1.20	-1.58	-0.68	-0.49	-0.58	-1.43	0.38	-0.77	-0.38	-0.38	0.26	0.14	-1.14	700
Clone ID	224996	661259	3246379	78783	2639181	1672467	2950063	3288518	184110	1368173	1813409	28309	1721744	1924344	3176845	2286809	1985244	1570042	2079906	2852042	1319020	1572555	782235	1314882	1403636	1968921	1558081	2495131	4049957	888884

Liver Kidney Kidney Kidney (7147)
(0993) (0994)
-2.96
-1.63
-2.79
-1.68
-0.58
-1.00
0.38 0.38 0.26
-1.14
0.38
0.38
-0.77
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0.26
-1.38
-1.32
0.26
-0.49
-1.38
-1.26
-6.43
-5.55
-5.31
-3.49
-1.54
-0.85
-2.58
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-1.81
89.0
-0.58

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Striatum	(3971)	-1.6	-1.6	0.14	4.4	4.0	000	0 -	-0.77	-0.20	-2.4	-2.0	-0.2	<del>89</del> 0-	-1.6	-0.7	-1.68	-2.10	-0.45	-0.26	-1.26	-0.85	-2.41	-1.38	-3.09	-4.27	-1.58	-2.56	-1.77	-0.68	33.5
Brain	(7000)	-2.07	-2.29	-0.26	4.84	-4.65	000	-1 49	-1.49	-0.77	-3.55	-2.35	-0.38	-1.38	-2.63	-1.20	-2.14	-3.09	-0.85	-0.49	-2.72	-1.26	-3.19	-3.09	-2.20	-5.15	-2.56	-3.87	-2.63	-1.07	>
Brain	(6669)	-1.96	2.26	-0.14	4.55	-4.46	0.26	-1.38	-1.26	-0.77	-3.02	-2.10	0.14	-0.77	-2.35	-1.07	-1.81	-2.96	-0.58	-0.85	-2.94	-1.00	-3.14	-3.02	-3.29	-4.63	-2.35	-3.35	-2.43	-1.00	>>
Spleen	(8669)	1.81	-0.38	9:1-	-2.54	-3.15	1.43	-1.20	-0.68	-0.58	-3.52	-1.58	-0.14	-0.38	-2.00	-1.14	-0.68	-0.93	-0.14	-0.68	-2.91	-0.93	-2.63	-1.38	-2.91	-4.34	-2.38	-0.49	-1.96	-0.49	
Spleen	(8669)	0.14	-1.07	-1.38	-4.32	-4.48	1.20	-1.89	-0.77	-0.38	-3.50	-2.14	-0.85	-0.85	-2.14	-1.14	-1.49	-1.85	-0.58	-0.58	-2.91	-0.77	-0.26	-2.35	-2.41	-5.09	-1.63	-2.07	-1.72	-0.26	•
Spleen	(1660)	0.00	-0.38	-1.77	-3.84	-3.94	1.49	-1.85	-1.07	-0.68	-3.64	-2.43	-0.49	-1.07	-2.07	-0.85	-1.20	-1.96	-0.49	-0.93	-2.58	-1.07	-2.77	-1.89	-3.68	-4.93	-2.49	-1.93	-2.56	-0.49	
Pancreas	(0660)	-1.72	-2.14	×	-4.60	-4.35	-0.26	-1.26	0.85	0.58	-3.34	-1.43	89.0	-0.93	-1.72	-0.77	-1.85	-2.26	-0.26	×	-2.89	-0.38	-1.68	-1.89	-2.07	-4.79	×	-2.89	1.07	-0.85	
Kidney	(6880)	-1.43	-0.58	-1.20	-4.79	-4.57	-0.26	-0.68	0.85	-1.07	-3.61	-1.49	1.26	-1.43	-3.09	0.38	-0.58	-0.26	-0.26	0.77	-3.12	0.14	-3.17	-2.00	-3.35	-4.98	-1.20	1.89	1.14	-0.85	
Kidney	(0994)	-1.26	-0.85	-1.43	-5.10	4.90	-0.93	-1.68	0.14	-1.20	-3.19	-1.89	1.00	-1.43	-2.35	-0.26	-0.85	-0.49	-0.49	0.00	-2.79	-0.49	-3.46	-1.89	-3.05	-4.60	-1.63	0.38	2.00	·1.00	
Kidney (6993)	(6880)	-1.26	-0.38	-0.93	-4.77	-4.41	-0.49	-1.20	0.49	-0.93	-3.79	-1.54	1.14	-1.14	-2.38	0.26	-0.58	0.00	-0.58	0.14	-3.32	0.00	-3.17	-1.58	-3.71	-5.26	-1.32	1.32	1.72	-0.93	
Liver (2147)	((4.17)	-1.20	-1.72	1.32	-4.32	-3.96	-0.58	-1.63	-0.68	-0.26	-2.94	-1.14	-1.72	-0.85	-2.00	0.38	-2.26	-2.20	0:00	0.26	-2.51	0.14	-2.14	-2.32	-2.56	2.49	1.26	-1.49	-1.81	-0.49	
Liver (4133)	(6614)	-1.26	-2.20	2.04	-4.49	-4.31	-0.68	-1.68	-0.77	-0.26	-3.32	-1.07	-1.85	-0.93	-2.32	1.32	-2.41	-2.56	-0.26	0.38	-2.58	-0.85	-1.63	-2.58	-3.23	3.09	2.04	-1.14	-2.04	-1.07	
Liver (4209)	(1771)	0° <del>-</del>	-1.77	0.93	-4.21	-4.10	-0.58	-1.38	-1.00	-0.14	-3.34	-1.38	-1.77	-0.77	-2.79	0.49	-2.35	-2.41	-0.68	0.26	-2.46	-0.58	-1.20	-2.26	-2.81	2.20	1.20	-1.63	-5.00	-0.49	
Lung (2152)	(2012)	1.14	0.49	-1.26	-3.55	-3.99	-0.14	0.14	0.14	-0.68	-3.00	-1.32	0.85	-0.85	-2.32	-1.14	0.68	-2.04	-0.58	-1.58	-2.91	-1.32	-2.83	-2.32	-3.28	-4.93	-2.49	-2.77	-2.51	3.09	
Lung (2881)		0.93	0.38		-4.55	-4.47	-0.14	-0.58	-0.38	-0.58	-3.46	<del>-1</del> .96	0.85	-0.93	-2.43	-1.26	0.14	-1.54	-0.77	-1.43	-2.89	-1.43	-3.10	-1.38	-3.26	4.94	-2.68	-2.26	-2.20	3.00	
!	Clone ID	434377	2121863	1597231	4174437	2182901	1747979	1630553	478960	2132487	2921152	1846428	2796143	1805613	1431273	1804662	2921194	395368	2182861	1806436	2922143	1009691	1635004	2132752	1734393	4179338	1427623	3320987	2239819	876720	,

	Т																													
Striatum (3971)	-0.14	-0.68	-0.49	-1.54	-0.26	-1.26	-0.49	-0.68	-1.63	0.00	-1.96	-2.72	4.8	-2.68	-2.35	-1.14	-3.34	-1.54	-1.58	-4.43	-1.68	-0.58	-1.32	-0.26	-0.68	0.00	-1.00	-1.43	-1.38	-0.68
<b>Brain</b> (7000)	-0.68	-0.85	-0.77	-2.29	-1.96	-1.63	-0.68	-1.07	-1.00	-0.68	-2.98	-3.55	-5.09	-3.42	-3.15	-2.07	-3.70	-3.04	-2.58	-5.34	-2.29	-0.77	-2.00	-0.93	-0.58	0.14	-0.93	-2.10	-2.58	-0.85
Brain (6999)	-0.93	-0.49	-0.58	-1.72	-1.38	-1.26	-1.26	-1.38	-1.00	-0.26	-2.32	-3.02	-5.09	-3.32	-2.79	-1.32	-3.04	-3.12	-2.46	-4.43	-2.38	-0.85	-1.43	-0.85	-0.58	0.00	-0.93	-1.58	-2.35	-1.07
Spleen (6998)	0.77	-0.49	1.49	-1.38	0.58	-1.68	-0.68	0.68	-0.77	-0.38	-2.32	-0.68	-1.38	-0.77	-2.54	-1.07	-3.28	0.14	-3.63	4.49	-1.00	-0.26	-1.58	0.00	-0.58	-0.14	-1.20	-2.04	-2.10	-0.26
Spleen (6998)	0.49	-0.14	0.26	-2.04	0.58	-1.32	0.38	0.14	-1.07	-0.58	-2.07	-1.68	-2.51	-1.96	-2.17	-0.93	-2.79	-1.96	-3.34	-3.97	-1.20	-0.68	-1.32	-0.38	-0.49	-0.14	-0.77	1.00	-1.81	-0.14
Spleen (6997)	0.49	0.00	89.0	-2.04	0.38	-1.77	-0.14	0.58	-0.77	0.00	-2.14	-1.20	-2.41	-1.72	-2.85	-1.20	-3.66	-0.58	-3.79	-4.87	-1.43	-0.93	-1.63	-0.14	-0.85	-0.26	-1.07	-2.26	-1.68	-0.38
Pancreas (6996)	-0.49	-0.49	-0.49	-0.93	9:10	-0.85	-1.07	-1.26	-1.38	-0.26	-1.96	-2.29	-2.94	-2.20	-2.54	-1.00	-3.25	-3.61	-3.34	40.4	-1.20	-0.68	-1.43	-0.68	-0.49	0.14	-0.68	-1.32	-1.96	-1.00
Kidney (6995)	-0.26	-0.26	0.77	0.49	-0.26	00.1	-1.43	-0.85	2.32	0.49	-1.58	-1.32	-0.93	-1.07	-2.79	0.49	-3.36	-3.36	-2.96	-4.29	-2.29	-1.07	-1.96	-1.32	-0.14	-0.49	89.0	-1.93	-2.63	-0.77
Kidney (6994)	-0.26	-0.68	0.93	0.00	-0.38	-1.32	-0.93	-1.81	1.14	1.26	-0.93	-1.85	-2.23	-1.89	-2.63	1.07	-5.68	-4.03	-3.73	-3.82	-2.10	-1.14	-1.54	-0.77	-0.49	-0.38	0.38	-1.93	-2.17	-0.49
Kidney (6993)	-0.26	-0.26	1.38	0.00	-0.26	-1.14	-1.32	-1.38	1.71	1.07	-1.38	-0.93	-1.26	-1.07	-2.89	1.20	-3.45	-3.94	-3.38	-3.72	-2.07	-1.20	-1.89	-1.32	-0.49	-0.38	0.14	-2.07	-2.23	-0.68
Liver (2147)	-0.85	-0.38	-0.93	-1.07	-1.14	-0.77	•1.00	-1.77	-0.77	2.14	3.07	3.17	2.96	3.07	3.89	3.12	3.95	4.10	3.68	3.19	3.38	2.23	2.94	2.51	1.26	1.32	2.72	2.56	3.49	1.81
Liver (4133)	-0.38	-0.26	-0.49	-0.77	-1.77	0.38	-1.32	-1.77	-0.26	2.23	3.82	3.02	3.31	3.20	3.71	3.17	3.91	3.64	3.99	4.17	3.93	3.09	3.38	3.39	1.63	1.89	3.00	3.69	3.57	2.23
Liver (4209)	-0.38	0.00	-0.58	-0.77	-1.58	-0.26	-0.77	-1.54	-1.07	1.96	3.09	2.81	2.49	2.68	3.34	3.38	3.52	4.09	3.46	3.20	3.26	2.63	2.83	3.29	1.14	2.14	2.79	3.92	3.07	2.00
Lung (2152)	1.85	18:	2.20	2.26	2.10	2.72	96:1	1.54	1.58	-0.26	-2.38	0.38	0.38	0.26	-2.72	-0.77	-2.85	-0.58	-1.89	4.47	-2.07	-0.58	-1.89	-1.20	-0.49	-0.38	-1.00	-1.49	-2.23	-0.93
Lung (2881)	18:1	2.83	2.32	2.49	2.10	3.14	2.96	1.49	2.17	-0.68	-2.85	0.38	0.38	0.38	-2.87	-1.20	-3.35	-1.58	-3.71	4.22	-1.32	 8:-	-2.07	-0.93	-0.68	-0.26	-0.85	-1.93	-2.26	-0.77
Clone ID	2174130	2219077	1965041	1649959	1222317	1210122	1988674	1672640	1749417	1926543	1504934	2512879	1359832	1583076	139838	1344654	2513979	2369312	2048364	85246	166337	138274	1633340	1982416	946822	2517330	2516489	88741	168865	231779

Striatum (3971)	-0.49	-0.26	-0.38	-1:00	-0.58	-4.34	-1.20	-0.85	-3.95	0.38	-3.36	-1.32	-1.07	-1.93	-2.23	-1.38	-0.85	-0.26	-2.66	-4.47	-0.77	-2.17	-0.68	-0.38	-2.51	-1.00	-0.77	-0.14	1 13
Brain S (7000)	-1.00	-0.49	-0.77	-1.20	-1.32	-5.07	.1.93	-1.38	-4.62	0.26	-3.91	-2.20	-1.26	-2.32	-2.17	-2.20	-1.93	-0.14	-4.07	-5.58	1.81	-2.63	.1.38	-0.38	.3.32	2.04	.0.68	0.58	38
Brain (6999) (	0.85							-0.68																					
Spleen ((6998)	╀							-2.17											_										
Spleen S <sub>1</sub> (6998)								-2.23																					
																								•	·	•	-	Ī	•
Spleen (6997)	-1.00	-0.77	-0.9	-0.85	-0.49	-4.79	-1.85	-2.04	-4.36	-0.85	-3.81	-1.43	-1.20	-0.93	-2.51	-1.77	-1.26	-0.14	-1.07	-4.89	-1.07	-2.85	-1.07	-1.38	-2.46	-0.85	-1.00	-0.49	-1.38
Pancreas (6996)	0.00	×	-0.93	-0.85	×	-4.02	-0.85	-0.68	-1.72	-1.07	-3.00	-1.38	-0.68	-1.20	-1.68	-1.77	-1.63	-0.26	-2.61	-4.96	-1.00	-1.81	×	×	-2.51	-1.14	-0.58	-0.26	90.1-
Kidney (6995)	0.85	1.14	0.58	1.07	0.49	-2.04	0.00	1.14	-3.98	0.85	-3.61	-1.43	1.20	-0.58	-2.35	-2.43	-2.20	-0.49	-3.46	-4.95	-1.00	-0.58	0.58	99:	-1.93	-1.63	0.58	-1.07	-1.72
Kidney (6994)	1.32	1.14	1.81	1.32	1.07	-5.15	-1.14	-0.14	-4.58	0.93	4.04	-0.85	1.00	-1.93	-2.20	-2.10	-2.35	-0.38	-3.49	-5.44	-0.68	-2.17	0.00	0.93	-2.23	-1.89	0.49	-0.85	-1.00
Kidney (6993)	1.26	1.32	1.14	1.07	0.93	-5.11	-0.49	0.85	-3.89	89.0	-3.89	-1.07	1.43	-1.54	-2.79	-2.41	-2.17	-0.58	-2.74	-5.41	-0.26	-1.14	0.77	1.38	-2.07	-1.54	0.38	-1.07	-1.49
Liver (2147)	1.38	2.68	3.32	1.81	1.81	2.70	3.31	2.00	3.19	1.85	2.89	3.32	2.49	0.00	-1.43	3.04	3.63	2.23	3.31	3.09	2.54	3.88	2.74	2.83	-0.49	2.51	1.93	2.63	1.49
Liver (4133)	1.32	2.70	2.51	1.85	5.66	4.31	3.25	2.41	4.34	1.49	4.54	3.20	3.14	3.36	3.64	4.10	3.63	2.63	3.77	4.32	3.61	3.87	3.32	2.77	4.40	4.00	1.07	3.55	3.02
Liver (4209)	1.81	2.17	2.83	1.32	3.07	3.62	3.39	1.58	2.89	1.32	3.42	3.66	3.23	3.22	4.84	3.12	3.28	3.10	3.60	3.26	2.43	3.46	2.98	2.54	2.70	3.04	1.54	2.46	3.23
Lung (2152)	-0.93	-0.58	-0.26	-0.77	-0.38	-5.14	-0.85	0.93	-4.54	-0.26	-3.19	 8:-	-1.14	-1.14	-2.56	-2.07	-2.38	0.49	0.26	-3.64	-1.20	-2.83	-0.85	-0.58	-1.49	-1.43	-0.77	-0.93	-1.32
Lung (2881)	-1.20	-0.14	0.00	-0.77	-0.49	4.58	-1.32	0.49	4.55	-0.68	-3.20	-2.14	-1.20	0.00	-2.66	-2.41	-2.00	99.0	-0.49	4.26	-0.68	-2.89	-1.07	-0.14	-1.07	-1.20	-0.68	-0.77	-1.49
Clone ID	234123	1833801	1923613	2028620	1930954	1511658	2590673	1995380	167409	1846226	2052185	2517389	911015	604856	1448718	2517268	167134	2843638	1813269	1861971	2005973	2515729	2132356	1001726	2631845	86390	1287840	2516905	606122

Table 3

Striatum (3971)	-2.32	-1.00	-1.68	-3.31	-1.68	-3.26	-0.68	-1.77	-2.43	-3.72	-1.32	-0.85	-1.89	-2.29	-2.10	-1.38	-1.93	-1.68	-1.93	-0.85	-1.58	-2.63	-1.20	-2.41	-1.20	-1.20	-2.96	-0.85	-1.00	-0.85
Brain (7000)	-3.20	-1.81	-2.38	-3.91	-1.81	-3.86	-1.43	-2.38	-2.58	4.56	-2.17	-1.38	-3.32	-2.93	-3.10	-2.70	-2.00	-2.07	-2.46	-1.54	-2.26	-3.69	-2.17	-2.66	-1.49	-1.54	-3.47	-1.49	-1.81	-1.14
Brain (6999)	-2.85	-1.85	-2.10	-3.77	-1.43	-3.15	-1.20	-2.43	-2.91	-4.31	-2.00	-1.07	-2.85	-2.61	-2.66	-2.10	-1.54	-1.63	-1.93	-1.14	-2.38	-3.15	-2.07	-3.19	-1.00	-1.63	-3.77	-1.72	-1.32	-0.58
Spleen (6998)	-2.00	-0.26	-1.77	-3.28	-1.14	-2.94	-0.85	-1.72	-2.26	-2.79	-0.77	1.07	-1.43	-1.68	-2.66	-1.77	-2.20	-1.07	-2.87	-1.77	-2.35	-3.41	-1.14	-2.56	-1.43	-0.85	-2.63	-1.38	-0.85	-0.68
Spleen (6998)	-2.20	-0.85	-2.41	-3.60	-1.77	-3.07	-0.77	-2.20	-2.54	-3.19	-1.26	-0.14	-2.70	-1.72	-2.04	-1.89	-2.04	-1.49	-2.20	-1.38	-0.77	-2.32	-1.38	-2.81	-2.41	-0.68	-2.98	-1.07	-1.58	-1.07
Spleen (6997)	-2.61	-0.49	-1.96	-3.45	-1.32	-3.20	-0.85	-1.89	-2.98	-3.73	-1.20	0.38	-1.96	-1.93	-2.91	-1.96	-2.10	-1.00	-2.85	-1.72	-1.85	-2.81	-1.63	-3.19	-2.32	-1.14	-3.70	-1.43	-1.38	-0.85
Pancreas (6996)	-1.81	1.07	-0.14	-3.15	-1.14	-2.81	0.38	-1.38	-2.14	-3.14	-1.07	-1.85	-2.17	-1.85	-1.54	-1.81	-1.63	0.26	×	-0.93	-2.17	-3.15	-0.93	-1.89	-2.07	-1.00	-1.89	1.32	1.49	-0.38
Kidney (6995)	-2.58	0.26	1.07	-3.45	-1.68	-4.01	-1.72	-2.23	-2.46	-3.12	0.58	-0.26	0.49	0.58	-2.66	1.77	1.26	1.32	1.81	2.07	1.07	1.58	1.58	1.32	1.54	1.68	1.49	-1.07	-1.20	1.93
Kidney (6994)	-2.54	0.14	0.93	-3.63	-1.77	-2.96	-1.49	-2.10	-2.54	-2.54	1.32	-0.26	-1.89	1.49	-2.94	1.77	2.20	1.43	0.68	1.63	1.43	2.04	1.54	1.38	0.77	1.20	1.85	-1.38	-1.49	1.58
Kidney (6993)	-2.41	0.49	1.32	-3.91	-1.93	-3.23	-1.54	-2.26	-2.41	-2.54	0.93	-0.58	-0.58	1.07	-3.00	2.35	1.63	1.58	1.72	2.49	1.58	1.85	1.93	1.63	1.32	1.68	1.77	-1.49	-1.43	1.58
Liver (2147)	3.70	2.10	2.35	3.31	3.23	3.78	1.96	4.10	3.47	2.94	1.54	1.72	2.70	2.07	3.19	3.23	2.58	1.32	1.68	2.72	2.63	2.79	2.10	2.98	2.79	68:1	3.00	2.41	2.00	0.93
Liver (4133)	4.06	2.29	2.07	3.12	2.51	3.47	2.61	3.84	3.88	3.82	2.63	1.85	3.74	2.32	4.13	3.17	2.77	2.26	3.66	1.72	3.39	3.14	3.02	3.69	3.29	2.14	2.49	3.49	3.72	0.93
Liver (4209)	3.52	2.17	1.38	2.89	3.39	3.52	2.00	3.90	3.26	2.81	1.96	1.26	3.07	1.49	3.12	2.04	1.85	1.72	1.71	2.51	2.38	2.49	2.96	2.83	2.51	1.26	2.38	3.34	2.81	0.68
Lung (2152)	-2.58	-0.26	-1.32	-3.77	-1.77	-3.46	-0.85	-2.61	-2.79	-3.34	0.14	-0.85	-0.26	-1.00	0.14	-2.56	-1.63	0.93	-2.04	-1.38	-2.68	-3.73	-1.26	-3.43	-1.68	1.07	-3.52	-0.68	-1.20	0.26
Lung (2881)	-2.72	-0.26	-2.35	-3.79	-1.93	-3.67	-0.93	-2.26	-2.58	-3.60	0.26	-1.26	9.	-1.49	-0.38	-2.51	-1.49	0.58	-2.72	-1.43	-2.54	-3.78	<u>-</u> \$	-3.28	-1.96	0.38	-3.46	-1.20	-1.26	-0.49
Clone ID	1813381	1988108	1644648	2516104	2516448	2514507	1427470	1311471	195142	29598	1968576	2959255	446969	1631511	1508741	2513602	1981145	2103752	2658782	2099420	637639	279249	1379063	89747	2515873	1432372	1633719	1712663	4285203	1634342

Lung Liver (2152) (4209)
-1.14 -0.93 -0.85 -0.49
-0.77 -1.20 -1.20
-1.26 -1.68
1.81 -1.93
-2.26 -2.56
-1.00 -0.93
0.49 0.85
-0.77 -0.93
-1.32 -1.00
-3.89 -3.54
89.0-
-1.49 -1.14
-1.49
-0.26 0.14 0.14
-1.20 -1.07 -0.68
0.58 1.54 0.93
1.77 2.17 2.70
-0.14 -0.85
-2.43 -2.98
-4.95 -5.03
-4.34
-5.95 -5.86
-4.38 -4.83
-4.99 -4.95
-1.49 -1.81 -1.68
-4.85 -4.73
-5.41 -5.03
-0.49 -1.20
0.38 -0.49 -0.49 -0.38
0.77

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	Striatum (3971)	-2.5	£.	-3.2	-2.0	-5.7	-6.4	-5.82	-2.0	-1.3	-3.7	-3.4	-6.5	0.1	-0.9	-0.3	-2.4	-0.2	-0.1	-2.0	-1.9	1.7.	3.5	1.3	1.49	1.54	1.43	1.96	1.20	20.2
	Brain (7000)	-3.46	-3.35	-3.89	-3.20	-6.49	-6.6	-6.12	-2.54	-1.07	-3.91	-4.50	-6.64	-2.98	-1.58	0.68	-3.25	-1.00	-1.58	-3.02	-2.89	2.58	0.58	2.91	1.26	1.93	2.04	2.63	1.93	2.46
	Brain (6999)	-2.81	-3.35	-3.80	-2.61	-6.48	-6.64	-5.53	-2.35	-1.26	4.10	-3.86	-6.64	-2.32	-1.26	0.77	-2.87	-1.07	-1.49	-2.89	-2.43	2.91	1.68	3.09	1.72	2.17	2.23	2.58	2.10	2.43
	Spleen (6998)	-2.89	-2.68	-3.69	-2.94	-5.03	-6.60	-5.76	-1.07	0.00	-3.49	-3.68	-6.19	-2.72	-1.20	-0.85	-1.85	1.93	2.61	2.70	2.46	-1.14	-2.35	-1.81	-0.26	-0.68	-0.26	-0.58	0.26	-1.00
	Spleen (6998)	-2.83	-2.85	-3.69	-2.35	-5.39	-6.64	-5.86	-2.07	-0.14	-3.99	-3.64	-6.64	-2.54	-1.49	-0.49	-2.49	2.07	2.17	1.07	2.63	-1.77	-2.17	-1.81	-0.93	-0.68	-0.14	-1.32	<b>.</b> .00	-0.38
	Spleen (6997)	-2.94	-3.46	-3.73	-2.17	-5.76	-6.64	-5.95	-2.07	-0.14	-4.22	-3.51	-6.46	-1.63	-1.72	-1.32	-1.38	2.00	2.54	2.72	2.20	-1.89	-2.04	-2.17	-0.85	-0.93	-0.85	-1.20	-0.14	-0.77
\[ \]	Pancreas (6996)	4.26	4.96	3.87	3.85	4.54	4.35	4.48	2.20	2.83	4.07	4.19	2.07	3.47	3.15	2.41	3.19	-0.58	-0.49	-1.89	-2.07	-0.49	-2.17	-1.49	-0.14	-1.32	0.14	-1.07	-1.20	-0.26
	Kidney (6995)	-1.49	-3.39	-3.45	-3.28	-5.91	-6.64	-6.16	0.58	-1.00	-3.92	-4.40	-4.96	-0.58	-1.38	1.85	2.54	-0.26	0.14	-0.68	-1.43	-1.93	-2.58	-2.20	0.14	-1.07	-0.14	-1.20	-0.77	-1.26
	Kidney (6994)	-1.72	-3.41	-4.55	-2.89	-5.69	-6.64	-6.08	-0.26	-1.58	-3.79	4.08	-6.64	-2.91	-1.20	1.72	1.20	-0.26	-0.49	-0.49	-2.43	-2.14	-3.02	-2.10	-0.77	-1.26	-0.14	-0.93	-0.68	-0.77
1.5	Kidney (6993)	-1.49	-3.45	-3.67	-3.45	-5.76	-6.64	-6.15	0.58	-1.38	-4.09	4.14	-6.56	-2.38	-1.63	1.89	2.20	-0.38	-0.14	-0.77	-1.54	-1.77	-3.34	-2.43	-0.49	-1.38	-0.68	-1.38	-0.85	-1.14
	Liver (2147)	-3.04	-3.05	-3.50	-2.77	-5.13	-6.23	-5.51	-0.93	-1.49	-3.60	-3.79	-6.20	1.38	1.8.1	-0.49	-2.29	0.00	-0.26	-0.58	-1.43	-1.58	-1.54	-1.77	-0.49	-1.07	0.26	-0.77	-1.20	-0.49
1	(4133)	-3.14	-3.09	-3.69	-3.14	-5.45	-6.41	-5.79	0.26	-1.20	-4.36	-4.07	-6.32	3.78	3.79	-1.07	-2.93	-0.58	-0.77	0.49	-1.54	-1.49	-2.49	-2.38	0.14	-1.49	0.00	-0.68	-1.54	-1.00
1	(4209)	-2.83	-3.23	-3.39	-3.38	-5.48	-6.35	-6.03	-0.77	-1.43	-3.46	-4.32	-6.21	2.56	2.68	-0.26	-2.91	-0.26	-0.38	-0.77	-1.54	-1.32	-2.68	-1.77	-0.49	-1.32	0.00	-1.32	-1.68	-0.85
	(2152)	-3.04	-3.39	-3.68	-3.17	-5.12	.6 2	-6.20	-1.26	-1.43	-4.46	4.14	-6.64	-1.49	-1.26	-1.32	-2.14	0.26	0.93	-0.26	-1.54	-5.00	-2.23	-1.32	-0.85	-0.26	-0.38	-1.54	-1.43	- 8:-
5011	(2881)	-2.94	-3.04	-3.57	-3.47	-4.65	-6.64	-6.20	-1.20	-1.68	4.	-4.31	-6.52	-0.93	-1.14	-1.26	-3.00	-0.26	1.14	-1.07	-1.58	-1.72	-2.10	-1.68	-1.07	-0.77	-0.85	-1.20	-1.68	÷.
	Clone ID	3665105	2068983	2242648	885032	2383830	2085191	2792982	179929	2741788	2373608	2182095	2923150	293495	4284270	958923	1921393	1447866	1666737	586245	194162	243123	382416	1852659	3220181	1726307	1904244	2039955	2675641	1412749

<u> </u>	Т		_		_						_	_	_				-						_							
Striatum (3971)	1.07	2.56	1.58	1.20	1.38	1.68	0.77	2.77	1.72	2.46	0.00	1.32	0.85	0.85	0.1	0.85	1.77	1.68	1.68	2.91	1.63	1.68	2.07	1.63	89.0	0.93	2.23	1.14	0.85	1.07
Brain (7000)	1.68	1.26	2.38	1.89	1.81	2.10	1.63	1.26	1.54	2.41	3.02	1.85	1.49	2.61	2.26	1.89	1.54	2.43	2.58	1.89	2.68	2.26	2.46	2.43	2.23	1.72	2.54	2.51	2.32	1.93
Brain (6999)	2.17	2.35	3.19	1.85	2.35	2.10	1.63	2.14	1.32	2.61	3.29	1.93	1.77	3.25	2.96	2.14	1.85	2.83	2.89	2.29	2.38	2.70	2.85	2.38	2.17	2.07	3.02	2.89	3.09	2.14
Spleen (6998)	0.00	-1.77	-1.89	-0.49	-0.77	-0.85	-0.77	-0.77	-0.58	-0.14	-2.17	0.00	-0.26	-1.26	-0.85	-2.29	0.00	-0.38	-1.32	-0.58	-1.63	0.58	-1.20	-0.68	-0.85	-1.14	-4.87	-0.77	-1.43	-0.77
Spleen (6998)	-0.38	-2.32	-1.49	-0.49	-1.07	-1.26	-0.58	-1.77	-0.68	-0.38	-2.51	-0.14	. 89.0-	-2.29	-1.20	-2.54	0.38	-0.38	-1.68	-1.77	-1.68	-0.93	-2.00	-0.49	-0.93	-0.49	-5.00	-1.14	-1.49	-1.07
Spleen (6997)	-0.14	-2.00	-2.43	-0.58	-1.32	-1.14	-0.85	-1.20	-0.85	-0.77	-1.96	0.00	-0.49	-1.26	-1.72	-2.14	-0.14	-0.93	-1.54	-1.20	-1.72	0.26	-2.17	-1.26	-0.77	-I.14	-5.42	-1.81	-2.38	-1.32
Pancreas (6996)	-0.68	-2.43	-1.49	-0.49	-0.77	-0.68	-0.14	-1.93	-0.77	-1.14	-2.38	×	-0.85	-2.04	-1.14	-2.56	×	×	-1.89	-1.58	-1.68	-1.32	-1.93	-1.00	-1.14	-1.49	-5.02	-1.43	-1.07	-0.58
Kidney (6995)	-0.49	-2.10	-2.14	-0.38	-0.26	0.93	-0.58	-0.77	-0.68	-1.43	-2.10	-0.58	0.00	-2.35	-1.43	-1.20	-0.49	-1.00	-1.58	-0.14	-2.81	-1.20	-2.17	-1.26	-0.93	-0.85	-5.44	-2.00	-0.26	-1.20
Kidney (6994)	-0.77	-2.81	-2.26	-0.26	-0.58	0.14	-0.38	-1.43	-0.93	-1.20	-2.72	-0.77	0.58	-2.38	-1.43	-1.89	-0.49	-1.00	-2.17	-1.14	-2.51	-1.77	-2.58	-1.43	-1.20	<del>1</del> .00	-5.68	-1.72	-0.49	-1.26
Kidney (6993)	-0.49	-2.38	-2.17	-0.26	-0.14	0.58	-0.38	-0.77	-0.77	-1.32	-2.29	-0.49	0.14	-2.56	-1.49	-1.63	-0.49	-1.32	-2.00	-0.14	-2.54	-1.32	-2.23	-1.49	-1.20	-1.26	-5.57	-2.14	-0.38	-0.85
Liver (2147)	-1.20	-2.26	-1.49	-0.68	-1.14	-0.93	-0.58	-2.32	-1.38	-1.26	-2.04	-0.49	-0.93	-2.43	-1.14	-2.23	0.14	-0.58	-2.10	-1.8 18:1-	-2.41	-1.07	-2.14	-0.85	-1.14	-1.38	-4.72	-1.54	-1.49	0.85
Liver (4133)	-0.93	-2.29	-1.26	-1.00	-0.58	-1.00	-1.00	-2.14	-1.58	-1.38	-2.04	-0.38	-1.07	-2.46	-1.38	-2.29	-0.58	-1.00	-2.26	-1.68	-2.38	-1.14	-2.04	-1.38	-0.85	-1.38	-5.17	-1.72	18.1-	. 1.38
Liver (4209)	-1.07	-2.23	-1.26	-0.49	-0.68	-1.07	-0.77	-2.20	-1.32	-1.26	-1.81	-0.26	•1.00	-2.70	-1.68	-2.70	0.38	-0.58	-2.10	-1.81	-2.43	-1.38	-2.00	-1.07	-0.85	-0.93	-5.15	-1.58	-1.93	89.0
Lung (2152)	-0.14	-2.00	-1.72	-0.49	-0.58	97.	-0.68	-1.26	-0.26	-1.07	-2.41	-0.14	99.0	-2.00	-1.58	-1.26	-0.14	-1.14	-1.63	-1.07	-2.38	-0.49	-1.26	-1.32	-1.00	-0.58	-5.53	-1.68	-1.85	-1.07
Lung (2881)	-0.26	-2.17	-1.77	-0.77	-1.14	-1.14	-0.93	-1.26	-0.26	-0.77	-2.00	-0.26	8.	-2.38	-1.8.I.	-1.72	-0.14	-0.85	-1.72	 8:-	-2.46	-0.49	-1.77	-1.14	90:	-0.68	-5.50	-1.54	-1.93	-1.20
Clone ID	2949085	2963196	1505977	1674985	2109054	3317039	2838551	1477568	2963871	1740547	2292011	1349484	1674253	1932189	1403041	1486358	1439065	230629	1672676	1989129	1486348	1397294	2844322	1481440	26459	1406786	1485846	2153242	2157981	3244361

Table 3

	_														
	Lung	Lung	Liver	Liver	Liver	Kidney	Kidney	Kidney	Pancreas	Spleen	Spleen	Spleen	Brain	Rrain	Ctristim
Clone ID	(2881)	(2152)	(4209)	(4133)	(2147)	(6993)	(6994)	(5669)	(9669)	(2669)	(8669)	(8669)	(6669)	(7000)	(3971)
1986737	-1.43	-1.26	-2.26	-1.63	-1.96	-1.07	-0.68	-0.93	-1.77	-0.85	-1.43	98	233	2 14	0.85
2506867	•	-2.61	-2.85	-2.98	-3.23	-1.20	-1.07	-0.49	-2.49	-3.15	-3.05	-2.77	3.32	2.51	140
1211682	•	-1.96	-1.07	-1.54	-1.26	-1.89	-2.35	-2.23	-2.46	-1.26	-1.85	-1.14	2.79	2.41	1.58
1416354	•	-0.85	-1.38	-1.14	-1.26	-1.58	-1.32	-1.38	-1.26	-0.77	-0.49	-0.68	1.96	1.49	1.07
2963962		-1.26	-1.07	-1.58	-1.00	-1.68	-1.77	-1.58	-1.07	-1.20	-1.14	-1.20	1.43	0.85	149
1261086	-1.93	-1.93	-1.58	-2.14	-1.72	-1.20	-1.38	-1.38	-1.81	-2.04	-1.81	-1.96	1.54	1.20	920
258852		1.72	-0.77	-1.38	-1.00	-1.43	-1.26	-1.07	-0.58	-1.96	-0.93	-0.68	2.72	28	2.46
1901271	•	-0.38	5.04	1.14	0.38	-0.14	0.38	0.00	-1.20	-0.38	0.14	0.14	1.63	1.49	107
1740924	0.I-	-0.93	1.43	1.14	1.38	-1.14	-0.85	-1.49	-0.58	-0.49	-0.68	-0.68	1.89	1.96	0.77
1480159	-1.54	-1.58	-1.26	-1.32	-1.26	-0.49	-0.26	-0.49	1.43	-1.49	• <b>1</b> .00	-0.38	2.17	2.00	0.77

Table 4

Clone ID	Var. Betw.	Var. Within	F	Probability
2380381	1.94	0.10	20.13	6.82E-08
1618422	2.04	0.07	27.49	5.37E-09
2672064	2.41	0.10	23.48	1.96E-08
608361	1.97	0.09	23.03	2.29E-08
1922596	4.97	0.19	25.77	9.14E-09
1850033	5.92	0.40	14.64	1.42E-06
986987	8.95	0.10	86.39	2.99E-13
718807	5.91	0.09	67.09	2.71E-12
2880435	1.47	0.06	24.37	1.45E-08
187326	10.19	0.13	79.62	6.10E-13
1997963	6.10	0.17	36.56	4.95E-10
467700	8.97	0.20	45.64	7.52E-11
57382	11.72	0.12	97.40	1.04E-13
1222442	4.12	0.17	23.82	1.74E-08
4013105	9.43	0.26	36.28	
924319	15.30	0.53	28.81	5.29E-10 3.64E-09
1645119	3.78	0.11		
1379925			34.35	8.37E-10
1900961	8.88 6.90	0.10	93.06	1.56E-13
3506985	1	0.17	40.30	2.17E-10
551403	8.86	0.42	21.22	4.45E-08
	4.53	0.21	21.39	4.17E-08
3948420	7.12	0.19	36.73	4.76E-10
1722853	2.58	0.10	25.92	8.71E-09
1557490	4.82	0.15	33.20	1.11E-09
3208425	4.49	0.22	20.44	6.03E-08
1668474	5.40	0.08	67.90	2.44E-12
1622542	2.13	0.07	30.18	2.47E-09
4014318	3.14	0.15	20.97	4.89E-08
2394888	5.04	0.13	37.38	4.11E-10
1345550	14.73	0.19	76.01	9.14E-13
1719955	7.24	0.23	31.18	1.88E-09
2256026	2.96	0.11	26.92	6.38E-09
1538086	2.63	0.07	38.49	3.21E-10
958633	1.62	0.07	23.10	2.24E-08
2635943	10.60	0.16	66.67	2.86E-12
121888	11.84	0.13	88.7 <i>5</i>	2.36E-13
1627492	2.26	0.07	33.25	1.10E-09
4073867	2.26	0.11	21.01	4.82E-08
2190170	1.94	0.08	23.90	1.70E-08
972224	14.59	0.30	49.39	3.83E-11
1413644	4.89	0.24	20.10	6.90E-08
1538224	1.89	0.09	20.37	1.10E-07
2623268	2.63	0.12	21.59	3.87E-08
1665533	1.42	0.07	19.97	7.25E-08
981484	2.10	0.04	47.76	5.10E-11
973629	11.67	0.18	66.17	3.06E-12
1539638	1.56	0.04	35.82	5.89E-10
3015758	10.73	0.24	44.75	8.89E-11
2832314	4.17	0.14	30.35	2.36E-09
1702996	2.53	0.08	31.33	1.81E-09
839947	2.19	0.09	24.61	1.33E-08
1867522	17.51	0.28	61.87	5.47E-12
1987831	2.13	0.08	27.25	1.06E-08
2639708	9.66	0.07	137.49	4.99E-15
973815	11.77	0.23	51.52	4.99E-13 2.66E-11
169884	11.47	0.12	96.95	2.14E-13
2638235	3.76	0.05		
*030233	3.70	0.05	70.07	1.86E-12

Table 4

Clone ID	Var. Betw.	Var. Within	F	Probability
305198	8.01	0.19	42.81	1.30E-10
57997	6.98	0.15	45.44	7.81E-11
986558	7.92	0.13	61.57	5.71E-12
224996	9.69	0.26	37.77	3.76E-10
661259	3.88	0.18	21.82	3.55E-08
3246379	4.92	0.18	26.85	6.53E-09
78783	4.25	0.24	17.54	3.57E-07
2639181	27.23	0.12	219.82	7.75E-17
1672467	11.44	0.15	77.23	7.96E-13
2950063	13.85	0.21	65.86	3.18E-12
3288518	22.52	0.19	119.44	1.73E-14
184110	20.44	0.53	38.26	3.37E-10
1368173	5.43	0.09	61.20	6.02E-12
1813409	4.65	0.19	24.90	1.21E-08
58309	17.08	0.14	121.53	
1721744	3.00	0.14	35.26	1.49E-14
1924344	7.76			6.71E-10
3176845		0.17	45.89	7.18E-11
2286809	12.14	0.19	62.97	4.70E-12
	8.52	0.25	34.50	8.07E-10
1985244	4.68	0.16	29.30	3.16E-09
1570042	3.22	0.12	27.83	4.85E-09
2079906	2.69	0.14	19.61	8.40E-08
2852042	5.26	0.24	21.94	3.40E-08
1319020	4.01	0.15	26.40	7.49E-09
1572555	7.76	0.23	34.07	8.98E-10
782235	6.11	0.42	14.43	1.58E-06
1314882	6.00	0.29	20.42	1.08E-07
1403636	3.69	0.15	24.94	1.20E-08
1968921	1.21	0.06	20.09	6.93E-08
1558081	3.17	0.15	20.86	5.12E-08
2495131	4.68	0.17	26.87	6.48E-09
4049957	9.52	0.39	24.32	1.47E-08
1686585	6.01	0.18	33.56	1.02E-09
2696735	8.26	0.23	36.41	5.12E-10
1720149	5.48	0.24	22.65	2.63E-08
1866751	8.79	0.28	31.47	1.74E-09
1851696	5.84	0.12	50.27	3.28E-11
93820	7.72	0.34	22.63	2.65E-08
2368282	0.10	0.06	1.69	1.63E-01
2831248	1.22	0.03	35.01	7.14E-10
182802	0.82	0.09	8.93	4.98E-05
1003884	2.80	0.10	27.91	
1120	0.99	0.04	24.45	4.74E-09
1308542	1.47	i i		1.41E-08
_		0.05	26.85	6.52E-09
3820761	6.10	0.25	24.89	1.22E-08
1999167	3.20	0.16	20.08	6.95E-08
1522716	4.89	0.22	21.84	3.53E-08
1612969	1.71	0.05	34.60	7.88E-10
337500	1.99	0.09	22.42	2.85E-08
1285380	1.08	0.05	23.71	1.81E-08
1636639	2.34	0.06	37.45	4.04E-10
1985870	1.91	0.08	23.67	1.83E-08
1677936	15.10	0.56	26.99	6.26E-09
910612	13.68	0.66	20.60	5.65E-08
	14.00	0.62	22.42	2.85E-08
2594407	14.00	0.02		
2594407 963536	7.29	0.14	51.69	2.59E-11

Table 4

Clone ID	Var. Betw.	Var. Within	F	Probability
2804190	1.78	0.05	32.78	1.24E-09
1998428	7.92	0.08	93.61	1.48E-13
1800114	4.50	0.18	24.96	1.19E-08
1806769	6.28	0.19	33.07	1.15E-09
2474163	3.77	0.16	23.26	2.11E-08
1435374	7.49	0.28	26.56	7.12E-09
. 434377	3.63	0.17	21.28	4.35E-08
2121863	4.60	0.09	50.89	2.96E-11
1597231	4.47	0.13	35.24	1.27E-09
4174437	13.13	0.41	32.27	1.41E-09
2182901	13.23	0.39	33.98	9.18E-10
1747979	1.80	0.05	36.38	5.17E-10
1630553	4.76	0.11	41.76	1.60E-10
478960	2.02	0.06	33.56	1.02E-09
2132487	2.54	0.10	26.35	7.61E-09
2921152	9.32	0.12	76.38	8.76E-13
1846428	6.42	0.10	67.23	2.66E-12
2796143	3.39	0.10	32.61	1.30E-09
1805613	3.54	0.14	25.38	1.04E-08
1431273	6.39	0.12	53.05	2.07E-11
1804662	2.47	0.11	21.54	3.95E-08
2921194	4.16	0.06	71.14	1.63E-12
395368	7.68	0.16	47.72	5.14E-11
2182861	1.49	0.07	21.65	3.79E-08
1806436	2.67	0.08	33.51	1.93E-09
2922143	8.80	0.24	36.96	4.51E-10
1696001	3.19	0.10	33.34	1.08E-09
1635004	9.35	0.40	23.56	1.91E-08
2132752	8.31	0.35	24.01	1.63E-08
1734393	9.31	0.18	52.61	2.22E-11
4179338	23.18	0.38	60.49	6.66E-12
1427623	8.58	0.27	31.57	3.16E-09
3320987	8.40	0.23	35.93	5.74E-10
2239819	7.95	0.12	65.54	3.32E-12
876720	3.67	0.03	111.15	3.27E-14
1910091	1.78	0.05	37.15	4.32E-10
2174130	1.34	0.05	24.70	1.30E-08
2219077	1.77	0.10	17.69	3.33E-07
1965041	2.32	0.11	21.88	3.48E-08
1649959	4.06	0.08	48.69	4.32E-11
1222317	2.48	0.12	19.82	7.71E-08
2510171 1988674	5.01	0.33	15.39	9.76E-07
1988674	2.89	0.13	22.61	2.66E-08
1749417	3.40	0.17	20.16	6.71E-08
1926543	4.09	0.11	36.76	4.72E-10
1504934	1.80 7.25	0.06	28.63	3.83E-09
2512879	6.33	0.13	57.58	1.02E-11
1359832	9.34	0.10	61.41	5.84E-12
1583076	9.34 6.62	0.25	37.96	3.60E-10
139838	9.81	0.15	45.58	7.60E-11
1344654		0.11	91.36	1.83E-13
2513979	5.30	0.10	50.79	3.01E-11
2313979 2369312	11.65 12.93	0.18	64.60	3.77E-12
2048364	1	0.31	41.06	1.85E-10
85246	11.94 15.28	0.24	50.57	3.12E-11
166337		0.19	80.75	5.39E-13
100337	6.51	0.18	36.47	5.06E-10

Table 4

Clone ID	Var. Betw.	Var. Within	F	Probability
138274	2.89	0.06	50.18	3.34E-11
1633340	5.88	0.08	73.59	1.21E-12
1982416	4.23	0.10	43.11	1.22E-10
946822	0.84	0.04	23.67	1.83E-08
2517330	1.21	0.04	30.23	2.44E-09
2516489	3.69	0.08	48.89	4.17E-11
88741	6.33	0.16	39.74	2.45E-10
168865	7.32	0.11	69.05	2.11E-12
231779	2.11	0.03	65.83	3.20E-12
234123	2.35	0.05	45.40	7.87E-11
1833801	2,53	0.07	34.08	1.67E-09
1923613	3.53	0.08	43.51	1.13E-10
2058620	2.22	0.08	28.30	4.23E-09
1930954	2.94	0.10	28.90	6.55E-09
1511658	15.98	0.55	29.28	3.18E-09
2590673	5.18	0.10	53.53	1.91E-11
1995380	3.92	0.13	29.18	
167409	13.73	0.13	59.33	3.27E-09 7.87E-12
1846226	2.37	0.05	43.87	1.05E-10
2052185	12.30	0.03	55.64	1
2517389	6.16	0.09		1.37E-11
911015	4.29	0.09	68.31	2.32E-12
604856	3.92		39.90	2.36E-10
1448718	6.21	0.60 1.54	6.50 4.04	3.91E-04
2517268	6.93			5.66E-03
167134	7.22	0.10	68.50	2.26E-12
2843638	2,14	0.12	60.59	6.57E-12
1813269	9.85	0.05	41.93	1.55E-10
1861971	16.91	0.34 0.16	29.17	3.29E-09
2005973	4.25		103.79	5.97E-14
2515729	9.83	0.21	19.94	7.33E-08
2132356	4.65	0.15	66.87	2.79E-12
1001726	3.99	0.08	56.22	2.42E-11
2631845	6.14	0.07	59.77	1.43E-11
86390	4.78	1.08	5.70	8.59E-04
1287840	1.23	0.24	20.25	6.48E-08
2516905	3.22	0.05	22.75	2.54E-08
606122		0.09	35.40	6.50E-10
3553733	3.70	0.18	20.77	5.29E-08
1813381	3.67 9.36	0.33	11.16	1.05E-05
1988108		0.21	43.66	1.10E-10
1988108	3.39	0.07	47.86	5.01E-11
2516104	5.80 12.64	0.16	36.83	4.65E-10
2516104		0.21	61.15	6.06E-12
	5.80	0.14	40.95	1.89E-10
2514507	12.10	0.32	37.31	4.17E-10
1427470	3.80	0.09	43.37	1.16E-10
1311471	9.16	0.16	58.72	8.61E-12
195142	10.59	0.10	107.66	4.32E-14
29598	14.19	0.21	67.15	2.69E-12
1968576	4.52	0.10	46.73	6.15E-11
2959255	3.40	0.15	23.02	2.30E-08
446969	9.50	0.36	26.46	7.36E-09
1631511	8.27	0.15	56.65	1.17E-11
1508741	9.90	0.18	54.89	1.54E-11
2513602	8.11	0.16	49.65	3.66E-11
1981145	6.12	0.10	64.25	3.95E-12
2103752	3.95	0.07	54.70	1.59E-11

Table 4

. Clone ID	Var. Betw.	Var. Within	F	Probability
2658782	9.83	0.26	37.29	7.89E-10
2099420	5.81	0.09	64.47	3.83E-12
637639	7.71	0.26	29.49	3.00E-09
279249	12.48	0.16	77.94	7.35E-13
1379063	6.24	0.20	30.82	2.08E-09
89747	11.71	0.16	75.19	1.01E-12
2515873	6.73	0.12	57.38	1.05E-11
1432372	4.27	0.11	40.13	2.25E-10
1633719	11.91	0.13	89.18	2.26E-13
1712663	4.84	0.14	35.46	6.41E-10
4285203	4.91	0.19	25.41	1.03E-08
1634342	2.22	0.09	24.38	1.44E-08
1418871	3.42	0.05	71.00	1.66E-12
3766382	1.81	0.09	19.98	7.22E-08
943181	3.56	0.10	34.37	8.34E-10
603761	5.67	0.35	16.30	6.27E-07
1297562	4.01	0.17	23.67	1.83E-08
2910715	3.39	0.12	27.78	4.92E-09
196975	1.26	0.05	23.77	3.21E-08
1453049	4.31	0.16	27.74	9.16E-09
1968695	2.01	0.07	30.29	2.40E-09
958344	10.67	0.11	100.25	8.10E-14
2820985	6.64	0.31	21.48	4.04E-08
1633393	2.80	0.04	62.93	4.73E-12
1806451	3.96	0.11	34.69	7.70E-10
2674772	9.66	0.15	64.17	7.70E-10 3.99E-12
1376121	3.04	0.05	67.05	2.73E-12
831794	3.93	0.03	54.41	
1427681	8.17	0.07	54.41 52.87	1.66E-11
2912830	10.21	0.13		2.13E-11
504786	6.84		54.94	1.53E-11
254081	7.89	0.14	49.12	4.00E-11
1330674	7.28	0.09	91.66	1.78E-13
2377834		0.27	27.09	6.06E-09
2075464	10.49	0.08	132.69	6.83E-15
	7.13	0.12	61.36	5.89E-12
2383235	8.80	0.14	61.55	5.73E-12
1285503	1.07	0.16	6.72	3.18E-04
2383205	8.56	0.08	103.23	6.26E-14
2015871	0.76	0.28	2.71	3.41E-02
2374046	0.25	0.12	2.16	7.91E-02
1709828	1.54	0.06	25.45	1.01E-08
2061119	1.48	0.07	20.21	6.58E-08
3665105	5.13	0.15	34.78	7.55E-10
2068983	6.01	0.12	49.04	4.06E-11
2242648	4.90	0.12	41.17	1.81E-10
885032	4.17	0.15	27.40	5.52E-09
2383830	9.62	0.36	26.48	7.32E-09
2085191	10.37	0.09	119.16	1.77E-14
2792982	9.77	0.31	31.68	1.65E-09
179929	5.42	0.18	30.27	2.41E-09
2741788	2.88	0.05	53.93	1.79E-11
2373608	7.06	0.22	31.40	1.78E-09
2182095	13.19	0.26	51.25	2.78E-11
2923150	17.49	0.34	50.73	3.04E-11
293495	6.68	0.78	8.52	6.83E-05
4284270	5.92	0.18	33.45	1.05E-09
958923	2.30	0.14	16.98	4.57E-07
750723	4.50	0.14	10.70	4.3/E-U/

Table 4

Clone ID	Var. Betw.	Var. Within	F	Probability
1921393	9.15	0.21	43.78	1.07E-10
1447866	1.52	0.07	21.82	3.56E-08
1666737	2.87	0.14	20.22	6.57E-08
586245	4.67	0.28	16.50	5.71E-07
194162	8.72	0.49	17.90	3.04E-07
243123	4.13	0.14	28.53	3.95E-09
382416	5.66	0.44	12.79	3.89E-06
1852659	4.73	0.19	24.47	1.40E-08
3220181	1.78	0.09	20.77	5.30E-08
1726307	2.30	0.05	45.27	8.05E-11
1904244	1.49	0.09	16.95	4.65E-07
2039955	3.05	0.11	27.19	5.87E-09
2675641	2.23	0.12	19.34	9.39E-08
1412749	2.58	0.06	42.61	1.35E-10
1963854	1.85	0.09	21.03	4.80E-08
2949085	1.39	0.07	20.01	
2963196	4.17	0.07	29.26	7.15E-08
1505977	4.36	0.14	29.26	3.20E-09
1674985	1.33	0.20		3.33E-08
2109054	2.60	0.04	31.95	1.54E-09
3317039	2.16	0.12	20.99	4.87E-08
2838551	1.00	0.07	30.17	2.48E-09
1477568	3.38	0.03	19.36	9.30E-08
2963871	1.59		19.47	8.88E-08
1740547	3.18	0.04	40.44	2.11E-10
2292011	5.13	0.02	133.38	6.53E-15
1349484	1.28	0.49	10.51	1.60E-05
1674253	•	0.05	26.46	1.35E-08
1932189	1.65	0.06	28.15	4.41E-09
1403041	5.13	0.24	21.07	4.71E-08
1486358	3.36 3.26	0.35	9.69	2.84E-05
1439065	1.19	0.11	29.08	3.37E-09
530629		0.05	21.71	6.66E-08
1672676	2.83	0.19	14.94	1.22E-06
1989129	4.19	0.08	50.44	3.19E-11
	3.08	0.14	21.69	3.73E-08
1486348 1397294	4.85	0.12	40.19	2.22E-10
2844322	3.23	0.18	18.26	2.60E-07
4 454 4 44	4.50	0.10	46.79	6.08E-11
1481440 26459	2.69	0.13	20.45	6.01E-08
20439 1406786	2.26	0.11	20.02	7.11E-08
1485846	1.74	0.09	20.45	6.01E-08
2153242	13.79	0.09	155.44	1.68E-15
	3.68	0.15	24.68	1.30E-08
2157981	4.43	0.28	15.59	8.82E-07
3244361	2.35	0.09	26.64	6.95E-09
1986737	3.57	0.20	17.42	3.76E-07
2506867	6.38	0.29	21.92	3.42E-08
1211682	5.24	0.10	54.00	1.77E-11
1416354	3.06	0.13	24.40	1.43E-08
2963962	2.75	0.08	34.00	9.13E-10
1761086	3.61	0.09	40.13	2.25E-10
2588552	4.95	0.23	21.57	3.91E-08
1901271	3.46	0.16	22.22	3.07E-08
1740924	2.32	0.08	27.25	5.77E-09
1480159	3.06	0.12	24.71	1.29E-08

Table :

	Γ	т-																							_					
	Fourth																					Sk Muscle								
	Third																		Uterus	Spleen		Brain								
	Second											Sk Muscle	Uterus	Uterus	Ovary	Brain	Brain													
_	First	Heart	Неап	Неап	Неал	Heart	Heart	Heart	Heart	Heart	Heart	Heart	Heart	Heart	Неап	Heart	Heart	Heart	Heart	Heart	Heart	Heart	Heart	Неап	Неап	Sk Muscle				
	Brain	-0.84	0.48	0.40	÷.	0.83	-0.73	-1.07	1.20	0.14	-1.07	-0.07	-1.56	-0.17	-0.16	-0.07	-1.87	-0.42	-0.78	-1.33	-2.23	1.45	1.84	0.03	1.94	0.69	-0.18	1.19	-0.96	1.23
	Spleen	-0.84	0.05	-0.49	-0.15	-1.47	-0.56	-0.56	-0.82	-0.18	-0.82	<u>.</u>	-1.06	-1.72	-1.06	-0.50	-1.26	-0.65	-0.46	-1.24	5.04	-1.32	-1.90	-I.14	-0.07	-1.36	-0.51	0.09	-0.05	-0.77
	Pancreas	-0.92	-0.18	-1.66	0.82	-1.35	-0.47	-0.75	0.24	-0.49	-0.50	-0.95	-0.97	-1.55	-1.02	-1.66	-1.16	-0.59	-1.19	-1.05	-1.64	0.17	0.19	-0.94	-1.04	-1.26	-0.42	-0.43	-0.16	-1.39
	Kidney	0.83	-1.13	0.24	-1.07	0.77	-0.87	-0.95	-1.35	-0.04	-1.37	0.31	-1.39	-0.46	0.90	0.39	-1.73	-0.46	-0.79	-0.96	-1.79	-1.16	-1.31	0.03	-0.25	0.11	-1.10	-0.66	-0.66	0.46
re Set)	Liver	0.85	-1.08				-0.95																			_	_	0.79	_	
san(Enti	Lung	1		_			-0.67													4.1.					0.74	0.86	0.84	.0.68	0.41	0.12
Mean(tissuc)-Mean(Entire Set)	Intestine	0.12	0.70				-0.31									-1.77			-1.21		0.21	_		-0.55		-0.05	0.86	0.05	0.35	1.14
Jean(tis	Stomach	-0.30	-0.17				-0.12																			0.34	0.22	-0.34	0.16	E:
	Ovary						-0.40																					•		•
	Uterus						0.02																							
		0.20					0.67																							
	Sk Muscle Heart	1.65	~	2.10	~	1.91													3.79						_		_	-0.24		_
		381	422	26	198	969	)33	787	307	135	126	963	8	182	7	05	6	61	25	19	82	<u>8</u>	120	:53				<u>.</u>	<u>.</u>	<u>.</u>
	Clone ID	238038	1618422	2672064	608361	1922596	1850033	286986	718807	2880435	187326	1997963	467700	573	12224	40131	9243	16451	1379925	1900	35069	551403	3948420	1722853	1557490	3208425	1668474	1622542	4014318	2394888

Table 5

		Т	_	_															_		_								
	Fourth																												
	Third																												
	Second																											Heart	Heart
	First	Sk Muscle	Sk Muscle	Sk Muscle	Sk Muscle	Sk Muscle	Sk Muscle	Sk Muscle																					
	Brain	-1.12	0.30	-0.6	-0.0	-0.16	-0.57	-0.99	0.08	-0.92	0.0	-1.56	1.36	4.0-	0.44	-0.41	0.0	-1.09	-0.06	-0.98	1.05	-0.25	0.48	-0.67	1.24	-0.79	-0.80	-0.38	-1.02
	Spleen	-0.62	-1.49	-0.27	-0.81	-0.77	-0.94	-0.96	-0.73	-0.73	-0.4	-1.08	-0.96	-0.70	-0.74	-0.14	-0.28	-0.55	-0.58	-0.45	-0.55	-0.92	-0.19	-0.73	-0.28	-0.56	-0.80	-0.79	-0.92
	Pancreas	-i.15	-1.84	0.13	0.26	0.30	-1.32	-0.90	-0.83	-0.67	-1.01	-1.45	-1.26	-0.65	-1.65	-0.47	-0.10	-1.01	-1.21	0.29	-2.07	2	-0.37	-1.23		-0.53	-0.90		-0.49
	Kidney	-1.39	0.16	-0.75	0.17	90.0	-1.21	-1.13	-0.11	0.61	-0.29	-1.21	-0.85	0.11	-0.23	0.02	-0.49	-1.02	0.04	-1.21	0.85	-0.50	-0. 44.	-0.97	-0.76 x	-1.06	-1.43	- 49. I	-0.48
re Set		ı					-0.92																				-1.33	-0.81	-0.69
ean(Ent	Lung	1	_				to																				-0.80	-1.18	0.02
Ssue)-M	Intestine	•					-0.47																						
Mean(tissue)-Mean(Entire Set)	Stomach	-0.69	-1.08	-0.46	-0.65	-0.61	-0.34	-0.43	-0.41	-0.45	-0.31	-0.09	-0.26	-0.82	0.65	-0.46	-0.05	-0.35	0.05	-0.48	-0.19	0.46	-0.14	-0.56	-0.32	-0.66	<u>6</u> .	-0.70	0.18
	Ovary	-0.84	-1.25	-0.10	-0.74	0.74	-0.76	-0.55	0.85	-0.18	0.43	-0.38	-0.74	-0.33	0.23	-0.24	-0.60	-0.77	0.51	-0.53	-0.19	-0.20	-1.33	-1.81		-0.82	-0.41		-0.88
	Uterus	0.09	-1.39				-0.26																			-0.42	-0.0 <del>.</del>	-1.30 x	-0.60
	Sk Muscle	68.9	4.16	3.03	2.04	1.57	5.72	5.92	2.40	1.62	2.24	6.70	3.15	1.71	2.07	1.93	2.58	6.01	1.69	5.84	1.81	2.32	2.43	7.47	1.63	5.54	5.96	4.51	2.34
	Heart	-0.59	1.25	0.01	0.13	0.99	0.59	1.23	0.30	0.35	0.20	0.44	0.61	Ξ	0.14	0.46	-0.04	0.70	-0.34	0.08	0.76	0.08	-0.11	0.02	0.25	0.36	0.84	2.50	2.16
	Clone ID	1345550	1719955	2256026	1538086	958633	2635943	121888	1627492	4073867	2190170	972224	1413644	1538224	2623268	1665533	981484	973629	1539638	3015758	2832314	1702996	839947	1867522	1987831	2639708	973815	169884	2638235

Table 5

		Т																											
	Fourth																									Intestine			
	Third																									Sk Muscle			
	Second	Heart	Неап	Heart	Heart	Heart	Heart	Нсал	Heart	Uterus	Uterus	Kidney	Pancreas	Brain			Heart	Heart	Ovary	Ovary	Ovary								
	First	Sk Muscle	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus																				
	Brain	-0.67	-1.08	-0.50	-0.79	0.03	0.71	-1.74	-1.97	-1.24	-1.50	-1.90	-2.07	0.55	-0.89	-1.37	0.20	-1.39	-1.86	0.19	-0.93	1.61	-0.55	98.0	-0.65	16:1-	-1.77	-1.95	0.35
	Spleen	-0.83	-0.80	-1.23	-1.36	-1.45	-0.72	-0.19	-1.14	-1.33	-1.16	-1.02	-1.08	-1.20	-1.32	-1.32	-1.23	-0.50	-1.45	-2.06	-1.6	-0.16	-0.34	-0.57	-1.05	-1.30	-0.50	-0.80	-0.46
	Pancreas	-0.71	-0.27	-1.21	-1.95	-1.71	-1.10	-1.48	-1.38	-0.47	-0.92	-1.58	-1.61	-1.53	0.10	-1.29	0.45	-1.41	-2.31	-1.36	1.73	-0.50	-1.40	-1.09	-1.51	-1.14	-1.20	-1.39	-1.75
	Kidney	-1.29	-0.96	-0.84	-1.88	0.57	-0.99	-0.15	-1.99	-1.51	-1.76	-1.24	-2.10	0.12	1.07	-0.92	-0.86	-1.79	-1.51	1.69	-0.16	-0.89	-0.47	-0.72	-0.15	-0.92	-0.49	-0.91	-1.36
tire Set)	Liver	-0.94	-0.88	-1.40	-1.98	1.29	-1.07	-1.63	-1.50	-0.15	-0.76	-1.46	-1.08	-1.79	-0.64	-0.93	-0.56	-1.16	-2.44	0.81	0.70	-0.61	-0.55	-1.84	-1.91	-2.58	-1.33	-1.73	-1.93
Mean(tissue)-Mean(Entire Set)	Lung	-0.81	-1.08	-1.21	-0.35	-1.33	-0.87	0.32	-1.66	-1.54	-0.90	-1.12	-0.88	-0.91	-1.21	-1.29	-0.71	-1.00	97.	-2.37	-0.92	-0.81	0.05	0.06	-0.28	-0.79	0.87	0.88	0.00
issue)-N	Intestine	-0.91	-0.88	-0.71	-0.03	0.84	-0.65	-0.10	-1.28	-0.95	-1.63	-1.89	-1.46	-0.64	-0.45	-1.25	-0.66	0.16	0.65	-0.60	-0.52	-0.90	1.24	1.17	-0.22	1.57	0.25	0.64	0.56
Mean(t	Stomach				0.54																						_	-	
	Ovary				-0.90																								
	Uterus				1.46																								
	Sk Muscle	3.74	.4.08	3.44	4.47	1.81	3.14	2.12	6.89	4.45	5.44	7.79	90.9	3.01	2.68	5.75	1.95	4.20	4.37	3.52	3.13	2.41	-0.62	-1.16	0.73	1.72	-0.47	0.23	0.94
	Heart	3.03	1.82	3.20	1.53	1.60	1.70																Ť				•	0.56	-0.25
	Clone ID	305198	57997	986558	224996	661259	3246379	78783	2639181	1672467	2950063	3288518	184110	1368173	1813409	28309	1721744	1924344	3176845	2286809	1985244	1570042	2079906	2852042	1319020	1572555	782235	1314882	1403636

Table 5

		т		—																									
	Fourth				Intestine																								
	Third			Sk Muscle	Stomach	Kidney	Intestine		Stomach																				
	Second	Ovary	Ovary	Ovary	Ovary	Ovary	Stomach	Intestine	Intestine	Lung	Brain						Hcart	Uterus	Uterus	Uterus	Pancreas	Pancreas							٠.
	First	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus	Uterus	Ovary	Ovary	Ovary	Ovary	Ovary	Ovary	Ovary	Ovary	Ovary	Ovary	Ovary	Stomach						
	Brain	-0.54	-1.52	-0.64	-1.63	-0.90	-1.37	-0.91	-1.70	-1.41	3.25	-0.41	-0.76	-0.46	-1.73	O.I.	-0.53	-1.94	-1.94	-1.19	-0.05	-0.77	-0.14	-0.66	-0.45	-1.46	-1.33	-1.38	-0.86
	Spleen	0.14	-0.71	-0.87	-0.76	-1.27	-1.03	-0.53	-0.75	-2.05	-1.11	0.09	0.02	-0.72	-0.36	0.27	-0.41	-2.57	-0.50	0.48	-0.24	0.42	0.31	-0.67	1.15	-0.32	-0.67	-0.79	-0.61
	Pancreas	-0.74	-1.01	-2.38	-2.17	-1.33	-1.02	-1.69	-1.54	-1.86	-1.07	0.02	0.12	-0.15	-0.77	1.22	0.90	-1.14	-1.40	-1.39	1.82	1.62	-0.25	1.29	-0.75	-0.51	-0.76	-0.95	-0.69
	Kidney	-0.09	-0.11	-1.36	-0.57	1.54	-I.14	-0.33	-1.1	-1.08	1.31	-0.47	0.19	-0.32	00.1	0.16	-0.67	0.35	1.13	-0.51	-0.32	0.34	-0.22	-1.14	-0.83	-1.47	-1.37	-0.98	-1.05
ire Set)		-0.81	-1.56	-1.62	-2.47	-2.09	-1.57	-0.93	-1.78	-1.29	-1.08	-0.12	-1.02	-0.32	-1.48	-0.43	0.46	-1.45	1.02	-2.58	-0.30	-0.22	-0.41	-0.88	-0.68	-0.72	-1.18	-1.00	-0.57
ean(Ent	Lung	-0.26	0.55	0.45	0.24	-1.37	-1.06	-0.03	-0.55	1.71	-1.47	-0.21	0.35	-0.55	0.79	-0.17	-0.37	0.70	-0.09	0.67	-0.54	-0.10	0.32	0.07	0.58	-0.74	-0.76	1.10	-0.64
Mean(tissue)-Mean(Entire Set)	Intestine	0.19	0.26	0.08	1.84	-0.10	1.91	1.87	2.66	1.36	-0.88	-0.19	-0.15	1.07	0.36	-0.21	-0.35	0.49	0.15	0.14	-0.51	0.18	-0.17	0.64	0.73	98.0	0.79	0.52	0.89
Mean(ti	Stomach	0.08	0.66	0.11	1.88	0.94	2.40	1.48	2.33	0.91	-0.98	0.01	0.17	0.41	0.23	-0.07	0.54	0.57	0.34	0.55	-0.22	0.43	2.14	2.13	1.92	8.48	8.04	8.00	5.80
	Ovary	1.57	1.74	2.30	2.60	2.81	0.80	1.31	0.72	1.21	-0.24	4.25	2.34	4.23	1.72	2.02	1.55	2.98	1.66	3.45	3.45	2.43	-0.62	-0.52	-0.58	-0.58	-0.27	-1.22	-0.74
	Uterus	1.86	2.44	2.74	4.73	2.99	4.57	3.60	4.21	2.62	3.62	-0.02	1.08	-0. 4	1.46	0.65	-0.69	2.23	1.62	2.47	0.68	1.12	-0.35	0.87	-0.43	-0.52	-0.41	-0.99	-0.54
	Sk Muscle	-0.21	0.19	1.51	-0.62	Ξ:	-0.61	-1.13	-0.09	-0.24	-0.63	90.0	-0.19	0.11	-0.54	0.20	-0.36	0.65	-1.37	0.12	-0.20	-1.21	-0.45	-0.51	-0.60	-0.24	0.01	-0.40	-0.04
	Heart	0.01	0.59	0.58	-0.58	-0.02	0.30	-1.28	-0.77	0.88	-0.71	-0.17	-0.15	-0.14	0.53	-0.29	1.52	1.30	0.22	0.17	0.08	-1.02	-0.14	0.88	-0.45	-0.85	-0.22	-1.02	-0.15
	Clone ID	1968921	1558081	2495131	4049957	1686585	2696735	1720149	1866751	1821696	93820	2368282	2831248	182802	1003884	1120	1308542	3820761	1999167	1522716	1612969	337500	1285380	1636639	1985870	1677936	910612	2594407	963536

Table 5

		T	_	_			-						_													_	_		
	Fourth							Liver																					
	Third					Lung	<b>0</b>	Intestine																					
	Second	Intestine	Intestine	Intestine	Intestine	Intestine	Kidnev	Pancreas													•								
	First	Stomach	Stomach	Stomach	Stomach	Stomach	Stomach	Stomach	Intestine	Intestine	Intestine	Intestine	Intestine	Intestine	Intestine	Intestine													
	Brain	-0.94	-0.32	-1.70	-1.05	-1.45	0.67	-2.36	-1.59	-1.85	-0.08	-1.27	-1.26	0.02	-0.51	-0.94	-0.40	-0.48	-1.05	90.0	-0.51	-0.59	-0.63	-1.45	-1.28	-0.51	-0.24	-0.23	-0.51
	Spleen	-0.72	-0.0	-0.92	-0.41	-1.33	-1.20	-1.16	0.94	-0.40	-1.38	-0.22	-0.72	1.30	-0.87	-0.60	-0.35	-1.03	-0.93	-0.26	-0.34	-0. 44.	-0.66	-0.70	-0.14	-0.27	-0.43	-0.72	-0.40
	Pancreas	-0.75	-0.46	-0.20	-1.09	0.18	-0.33	.1.83	-1.43	-1.93		-1.25	-1.22	-0.34	-0.49	1.08	0.78	-0.81	-0.32	0.91	-0.50	-0.09	-0.38	-1.42	-0.82	-0.13		-0.80	0.15
	Kidney	-0.64	-0.60	-1.01	1.01	-0.96	1.65	1.25	-1.03	-0.39	-1.18 x	-1.54	-1.49	-0.63	-0.41	0.73	-0.87	-1.00	-0.52	1.36	-0.90	-0.97	0.51	-0.25	1.19	-0.31	0.60 x	0.99	0.41
re Set)		-0.99	-0.69	-0.82	-0.70	-0.91	0.4	1.62	-0.86	-1.69	1.43	-0.99	-0.99	-0.69	-0.79	-0.58	-0.03	-0.68	90.0	-1.55	0.45	0.74	Ξ:	16:1	0.95	0.18	0.60	0.43	0.09
an(Enti	Livei	-0.95	-0.07	1.08	0.79	2.06	-0.49	1.35	1.24	0.88	-1.23	-0.38	-0.72				·	-0.61		-	-	-0.51		0.74	0.26	0.52	0.94	0.85	0.75
sue)-Me	Lung	2.64	1.57	2.37	2.34	2.27	-1.12	1.78	2.29	2.51	1.71				3.81		2.68				•	4.52	•		·	2.15	·	5.23	3.01
Mean(tissuc)-Mean(Entire Set)	Intestine	4.13	2.01	4.74	2.37	3.14	2.85	2.16	-0.81	1.20	-0.57	60.0	-0.06	0.36	0.64	0.72	0.25	0.15	0.83	0.81	0.01	0.00	61.0	00.1	0.01	0.24	0.74	0.57	0.11
					-1.09													-0.71		0.15	0.45	-0.69	0.68	1.27	0.91	0.25	•	1.48	-1.24
	Ovary	1			-0.94						_																×		
	Uterus Sk Musele	ľ			-0.93																								
	Sk Muscle Heart		_					-1.67																•				•	•
	Clone ID	2252895	2804190	1998428	1800114			1435374				4174437							1846428								1806436		

Table 5

		_				_																							
	Fourth																												
	Third							Pancreas																					
	Second	Stomach	Stomach	Stomach	Liver	Liver	Kidney	Kidney	•										Kidney	•									
	First	Intestine	Intestine	Intestine	Intestine	Intestine	Intestine	Intestine	Lung	Lung	Liver	Liver	Liver	Liver															
	Brain	-1.23	-1.22	-0.74	-1.55	-1.1	-1.99	-1.21	-0.49	0.81	-0.76	-0.62	-0.88	-1.30	-1.11	-0.74	-0.25	8 <del>.</del> 1.8	-0.72	-0.37	-0.99	-2.40	-3.57	-2.40	-0.75	-1.02	-1.02	-0.70	0.20
	Spleen	-0.20	-0.60	-0.88	-1.65	<u>-</u> :-	-0.22	-1.02	0.01	-0.43	0.40	-0.16	0.54	-1.27	0.61	-0.94	0.42	0.51	-0.37	-0.37	-0.75	-0.49	-0.93	-0.74	-0.51	-0.58	-0.90	1.06	-1.18
	Pancreas	0.0	-0.62	0.05	-1.66		-1.62	2.13	-0.42	-0.28	-0.67	-0.44	-0.75	-0.38	-0.91	-0.20	-0.51	-1.22	-0.89	-0.32	-0.53	-1.60	-1.78	-1.46	-0.52	-0.51	-0.91	-1.74	-0.93
	Kidney	-1.58	-0.55	-1.25	-1.81	-0.33 x	2.47	2.68	-0.50	-0.47	-0.44	0.36	0.76	0.71	-0.21	91.0	-0.67	-1.31	2.23	0.89	0.13	-0.67	-0.31	0.60	-0.76	1.41	0.83	16:1:	.0.95
c Set)	Ridney	ł																-1.65											
an(Enti	Liver											•						1.62											
ue)-Me	Lung	1.																-0.50											
Mcan(tissue)-Mean(Entire Set)	Intestine											٠				•		-0.27											
~				-0.46								-						0.52											
	Ovary																	1.07											
	Sk Muscle																	0.55											
	Heart	-1.17	-1.41	-0.90														1.48								_		-1.30	_
1	Clone ID	1635004	2132752	1734393		1427623												1672640								1344654	2513979	2369312	2048364

Table 5

		т						_																					
	Fourth							•																•					
	Third																												
	Second						٠																						
	First	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver
	Brain	-1.21	-1.16	-0.35	-0.69	-0.22	-0.46	0.08	-0.53	-0.59	-0.78	-0.48	-0.52	-0.80	-0.57	-1.05	-1.29	-1.32	-0.85	-0.58	-1.41	0.52	8:	-0.66	-1.08	-1.14	-0.72	-0.66	-0.50
	Spleen	-0.92	-0.25	-0.24	-0.62	0.28	-0.48	-0.15	-0.59	-0.65	-0.54	0.13	-0.83	-1.03	-0.90	-0.78	-0.94	-0.93	-0.92	-1.76	-0.81	-0.82	-0.70	-0.49	-0.64	-0.17	-0.40	-0.41	-0.46
	Pancreas																									•		-0.48	
	Kidney	-0.41	-1.20	-0.75	-0.90	-0.68	-0.21	-0.38	0.82	-0.86	-1.02	-0.26	1.4	0.74	1.15	1.17	0.59	-0.48	0.15	1.01	-1.16	0.90	-1.16	-0.06	<u>4</u>	-0.52	-0.81	-1.02	<u>-</u> .04
lire Set)	Liver	7.05	4.48	3.03	3.94	3.52	1.50	1.82	3.26	4.50	4.70	2.40	1.76	2.06	2.86	1.67	2.27	7.16	4.00	2.39	6.45	1.63	6.30	4.45	3.18	3.02	3.99	4.71	4.71
fean(En	Lung	-0.63	-0.26	-0.34	-0.99	-0.48	-0.39	-0.23	-0.35	-0.42	-0.67	-0.51	-0.73	-0.70	-0.07	-0.81	-0.72	-1.10	-0.34	1.17	-1.25	-0.40	-0.53	-0.78	-0.55	0.25	-0.67	-0.76	-0.91
Mean(tissue)-Mean(Entire Set)	Intestine	-1.19	-0.48	-0.40	1.41	-0.35	0.03	0.21	-0.59	-0.73	0.30	0.56	0.52	0.46	-1.05	-0.42	0.14	-1.17	-0.72	0.19	-0.77	0.48	<del>6</del> .6	-0.65	0.01	-0.75	-0.43	-0.61	-0.47
Mean(t	Stomach	-0.54	-0.13	-0.38	-0.40	-0.21	-0.27	-0.22	-0.68	-0.79	0.52	0.01	-0.44	-0.19	-0.46	-0.61	-0.24	0.28	90.0	0.19	0.85	0.01	-1.03	-0.26	-0.20	0.26	-0.03	-0.19	0.17
	Ovary	-0.65												×			~									-	•	-0.81	
	Uterus	-1.05	-0.10	-0.38	-0.87	-1.22	-0.09	-0.73	-0.68	-0.60	-1.16	-0.45	-1.03	-0.66	-1.03	-0.52	-0.37	÷1.06	-0.77	-0.99	-0.85	0.40	-0.56	-0.83	-0.70	-0.65	-0.15	-0.69	-1.10
	Sk Muscle	-0.33	-0.06	0.08	-0.59	-0.76	0.07	-0.50	-0.39	-0.06	-0.69	-0.69	-0.76	0.15	0.15	0.54	0.28	-0.43	-0. 44	-1.08	-0.47	-1.28	-0.0	-0.47	-0.44	-0.30	0.0	-0.10	-0.46
L	Heart	-0.90	-0.77				0.16																-0.85					-0.12	
	Clone ID	85246	166337	138274	1633340	1982416	946822	2517330	2516489	88741	168865	231779	234123	1833801	1923613	2058620	1930954	1511658	2590673	1995380	167409	1846226	2052185	2517389	911015	604856	1448718	2517268	167134

Table 5

		T				_												_											
	Fourth																Kidnev												
	Third																Intestine											Kidney	
	Second															Ovary	Ovary	Intestine	Lung										
	First	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver							
	Brain	-0.39	-2.16	-1.30	-0.70	-0.37	-0.70	-0.24	-1.38	9:1-	-0.68	-0.09	-0.39	-0.27	-1.19	-1.45	-1.54	-1.62	-0.95	-1.54	-0.83	-1.26	-1.15	-2.18	-1.54	-0.78	-1.42	-1.62	-0.93
	Spleen	-0.41	0.15	-1.06	-0.60	-1.14	-0.65	-1.01	-0.86	-0.14	-0.81	-0.21	-0.33	-0.43	-0.67	-0.43	-1.53	-1.40	-0.72	-1.19	-0.55	-1.00	-1.10	-1.22	-0.79	0.76	-0.77	-0.78	-0.85
	Pancreas	-0.43	-1.42	-1.21	-0.37	-0.02			-0.95	-0.48	-0.56	0.05	-0.12	-0.41	-0.21	1.17	0.38	=:	-0.45	-0.92	0.65	-0.44	-0.64	-1.12	-0.78	-1.53	-0.90	-0.86	0.15
	Kidney	-0.65	-2.04	-1.51	-0.02	0.49	0.72	1.16	-0.51	-1.03	0.51	-0.72	-0.52	-0.01	-0.91	0.39	1.62	-1.62	-1.10	-1.52	-1.31	-1.26	-0.97	-0.71	1.23	-0.05	0.60	5.04	-1.18
iro Cor)		2.48	4.75	7.31	3.49	5.52	3.29	2.77	3.77	3.84	1.54	3.16	3.46	3.08	5.36	2.29	2.45	5.15	3.73	5.48	2.46	4.88	5.03	5.21	2.33	1.93	4.44	2.95	5.17
ean(Fnt	Lung	0.38	1.28	0.00	-0.45	-0.89	-0.57	-0.05	0.59	-0.31	-0.54	-0.48	-0.43	-0.17	-0.98	-0.08	-1.07	-1.33	-0.90	-1.21	-0.32	-1.07	-1.15	-1.1	0.55	-0.64	0.56	-0.22	1.65
Mean(tiscue)-Mean(Futire Set)	Intestine	-0.39	0.22	-1.47	0.27	-0.63	-0.67	-1.05	0.12	-0.56	0.48	-0.45	-0.22	-0.51	-1.01	-0.38	1.65	3.04	1.62	2.14	1.70	1.74	1.93	3.21	1.55	1.67	1.82	2.70	-1.23
Mean(ti	Stomach	-0.17	-0.77	-0.20	0.50	-0.83	-0.61	-0.56	0.08	-0.06	0.09	-0.09	-0.15	-0.35	-0.75	-0.33	0.38	-0.76	-1.01	-0.88	0.53	-0.48	1.24	1.25	0.29	-0.78	-0.05	-0.69	-0.93
	Ovary	0.59	-0.91	-0.61	-1.29	-1.45	*	*	-0.89	-0.1	0.16	<u>-1.0</u>	-0.70	-0.94	-0.21	2.06	1.84	-0.39	-0.63	-0.32	0.86	-0.39	-1.27	-0.33	-1.09	90.1	-2.08	-1.27	-0.48
	Uterus	-0.31	0.88	-0.56	-1.13	-1.08	-0.49	-0.45	-0.72	-0.22	-0.17	-0.75	-0.74	-0.81	-0.60	1.08	-1.07	-0.73	-0.57	-0.32	÷.8	-0.17	-1.38	-1.26	-1.29	0.18	-1.96	-1.72	-1.29
	Sk Muscle	-0.58	-0.93	-0.21	-0.74	-0.50	0.00	-0.48	0.09	0.02	-0.31	-0.27	-0. 4	0.18	-0.05	-0.87	-0.54	-0.08	0.11	0.20	-0.74	-0.28	-0.57	-0.91	-0.86	-0.90	-1.59	-1.21	-0.32
	Heart	-0.16	-0.56	-0.65	-0.27	-0.71	-0.74	-0.45	-0.79	-0.45	0.02	-0.05	-0.25	-0.65	0.51	-1.05	-1.33	-0.66	-0.37	-1.15	-0.58	÷.	-1.29	-1.80	-1.18	-1.41	-1.32	-1.54	-0.71
	Clone ID	2843638	1813269	1861971	2005973	2515729	2132356	1001726	2631845	86390	1287840	2516905	606122	3553733	1813381	1988108	1644648	2516104	2516448	2514507	1427470	1311471	195142	29298	1968576	2959255	446969	1631511	1508741

Table 5

		F			_												•						-							
		Fourth																												
		Third																												
		Second	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Pancreas	Pancreas												Intestine	Intestine	Intestine
		First	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Liver	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney	Kidney
		Brain	-1.06	-1.07	-1.53	-0.89	-0.50	-0.88	-1.25	-1.17	-1.01	-0.26	-1.22	-1.74	-0.72	-0.90	-0.70	-0.52	-0.47	-0.46	0.32	-0.17	-0.93	-0.41	-1.35	-0.87	-0.93	-1.16	0.49	-0.87
		Spleen	-0.87	-1.37	-0.92	-1.42	-0.94	-0.46	-0.94	-0.74	-1.11	-1.08	-0.65	-1.44	-0.66	-0.80	-0.71	-0.64	0.11	-0.42	-0.40	-0.85	-0.13	-0.40	-0.99	0.02	-0.89	-1.08	-1.15	-0.69
		Pancreas	-0.80	-0.88	0.52	~	-0.25	-0.98	-1.25	-0.29	-0.15	-1.10	-0.77	-0.23	1.95	1.96	-0.22	-0.27	-0.14	-0.23	×	1.04	1.00			-1.01	0.68	-0.55	0.28	-0.54
		Kidney	2.96	2.45	1.71	2.62	2.74	2.55	3.73	2.32	3.18	2.18	1.75	3.36	-0.68	-0.90	1.86	3.31	2.23	3.37	3.77	2.23	2.73	1.58	2.28	1.73	5.82	3.34	1.92	2.74
	tire Set)	Liver	3.82	3.15	2.03	3.58	3.00	3.99	4.71	3.34	4.91	3.83	2.00	4.28	3.71	3.32	1.0	-0.18	-0.43	-0.65	-0.57	-1.81	-0.39	0.50	-0.76	-0.86	-0.82	0.73	-0.88	-0.75
í	Mean(lissuc)-Mean(Entire Set)	Lung	-1.29	-0.85	0.89	4.	-0.64	-0.90	-1.55	-0.49	-1.33	-0.93	0.84	-1.48	0.01	-0.60	0.08	-0.26	-0.32	-0.63	-0.54	1.34	0.92	-0.66	1.41	-0.05	-0.96	-1.34	-0.13	-0.91
	ISSUC)-N	Intestine	-1.08	0.71	0.43	1.0	-0.51	-1.32	-1.23	0.25	÷.09	-1.06	0.84	1.29	-0.57	-0.17	0.81	-0.58	0.05	-0.45	-0.86	-1.15	-0.86	-0.20	0.46	<u>-</u>	-0.87	2.44	1.65	1.88
	Mean	Stomach					-0.90			-0.21	-1.00	-0.97	99.0	-0.98	-0.03	-0.75	0.10	-0.45	0.15	-0.30	-0.30	-1.08	0.67	- - -	1.16	-0.18	-0.43	-0.40	-0.35	-0.35
		Очагу	-1.00	-0.88	0.40	×	-1.39	-0.77	-0.30	-0.74	-1.30	-0.57	-1.35	-1.39	-0.4	-1.06	-0.22	-0.68	-0.51	-0.43	×	-0.21	-1.34	×	×	-0.18	-0.89	-0.45	-0.07	-0.68
		Uterus	-0.69	-0.63	-1.12	-1.84	-1.28	-0.88	-1.28	-0.97	-1.22	-0.49	-1.53	-1.62	-0.62	-0.25	-0.60	-0.42	0.43	-0.43	-0.79	0.95	-0.86	-0.48	-0.91	90.0	-0.98	-1.08	-0.69	0.17
		Sk Muscle	-0.42	-0:78	-1.31	-1.13	-0.71	-0.60	-0.82	-0.73	-0.66	-0. 4	-0.96	-0.86	-0.60	1.26	-1.03	0.00	-0.61	0.01	-0.17	-0.53	-0.53	-0.20	-0.55	-0.44	-0.31	-0.60	-1.00	-0.15
		Heart	-0.49		-0.74	-0.95	-0.43																				-0.03	-1.00	-0.28	-0.72
		Clone ID	2513602	1981145	2103752	2658782	2099420	637639	279249	1379063	89747	2515873	1432372	1633719	1712663	4285203	1634342	1418871	3766382	943181	603761	1297562	2910715	196975	1453049	1968695	958344	2820985	1633393	1806451

Table 5

	Fourth	T																										_	
	routin																												
	Third					Liver	Š																			Intestine			Stomach
	Second	Intectine	I uno	Liver	Liver	Pancreas	Brain																			Heart	Ovary	Stomach	Intestine
	First	Kidnev	Kidney	Kidney	Kidney	Kidnev	Kidney	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas
	Brain	-1.47	-0.38	0.00	-1.18	-1.40	2.35	-0.39	-0.56	-0.81	-0.81	-0.81	-0.67	-0.78	-0.66	0.16	-0.27	-0.79	-0.22	-0.50	-0.58	-0.28	-1.45	-0.73	-0.82	-1.81	-0.49	-0.85	-1.27
	Spleen	-1.07	-0.20	=	-0.76	-1.0	-0.53	-0.41	-0.37	-0.41	-0.49	-0.41	-0.39	-0.52	-0.42	-0.24	-0.50	-0.30	-0.25	-0.16	-0.65	-0.15	-0.61	-0.79	-0.85	-1.24	0.63	-0.83	-0.94
	Pancreas	-0.20	-0.35	-1.58	-0.82	2.60	-1.02	8.97	8.59	10.28	8.25	9.28	3.83	9.32	7.12	4.23	2.20	1.71	68.9	7.80	6.92	6.19	9.31	10.19	9.48	2.70	3.55	7.14	98.9
	Kidney	4.20	2.23	2.54	3.60	4.88	3.62	-0.14	-0.72	-0.96	-0.92	-0.99	-0.60	-0.91	-0.80	0.09	96.0	-0.08	1.07	-0.58	-0.84	-0.86	-1.0	-0.80	-1.13	0.80	-0.60	-0.86	-1.53
(Inc. Sel)	Liver	<u>-</u>	-0.48	9.1	3.24	1.73	-1.42	-0.28	-0.50	-0.27	-0.43	-0.29	-0.26	-0.05	-0.60	-0.05	-0.51	-0.98	-0.37	-0.29	-0.47	-0.75	-0.57	-0.49	-0.78	0.02	-0.65	-0.73	-1.39
fean(En	Lung	1.3	1.83	-0.74	-0.84	-1.22	-0.83	-0.42	-0.39	-0.33	-0.49	-0.08	0.64	-0.26	-0.50	0.00	0.61	-0.76	-0.36	-0.25	-0.27	-0.72	0.26	-0.57	-0.86	-0.73	-0.91	-0.75	-1.26
Mean(tissue)-Mean(Entire Set)	Intestine	2.41	-0.67	-1.15	-1.17	-1.18	-0.98	-I.10	-0.65	-0.64	-0.29	-0.96	1.10	-0.56	-0.42	-0.16	0.45	0.10	-0.08	0.52	-0.09	0.12	-0.50	0.85	1.34	1.65	1.10	08.0	4.43
Mean(t	Stomach	-0.78	0.18	-0.57	-1.02	<del>.</del> 6	0.64	-0.34	-0.08	-0.50	1.22	-0.24	0.07	-0.25	-0.36	-0.39	0.48	-0.04	-0.49	0. 2	-0.19	0.47	-0.06	-0.33	0.01	1.30	99.0	2.56	2.23
	Ovary	-1.24	-0.76	-1.8	-0.35	-0.22	-1.17	-0.14	-0.48	-0.28	-0. 44	-0.28	-0.49	0.00	0.10	-0.81	0.79	1.32	-1.12	-0.30	0.04	-0.51	0.31	-0.27	-0.05	-1.39	1.65	-0.92	-1.35
	Uterus						-1.01																						
	Sk Muscle	-0.86	-0.73	0.67	-0.27	-0.54	-0.63	0.27	0.21	0.76	0.32	0.71	0.09	0.50	0.82	-0.45	-0.86	0.87	-0.42	-0.30	0.33	90.0	1.29	-0.03	0.17	-1.33	-1.06	0.08	-0.32
	Heart	-1.43	-0.67	-0.02	-0.99	-0.78	-0.61	0.09	0.41	-0.29	-0.26	-0.29	-0.61	-0.31	0.19	0.28	-0.76	0.20	-0.37	-0.66	0.29	0.54	-0.68	-0.20	-0.13	2.09	-0.58	-0.59	-0.59
	Clone ID	2674772	1376121	831794	1427681	2912830	504786	254081	1330674	2377834	2075464	2383235	1285503	2383205	2015871	2374046	1709828	2061119	3665105	2068983	2242648	885032	2383830	2085191	2792982	179929	2741788	2373608	2182095

Table :

		$\neg$											_														_		
	Fourth																												
	Third	Stomach				Stomach				Intestine																-			
	Second	Intestine	Liver	Liver	Kidnev	Kidney			Uterus	Stomach																			
	First	Pancreas	Pancreas	Pancreas	Pancreas	Pancreas	Spleen	Spleen	Spleen	Spleen	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain
	Brain	-1.67	-0.54	-0.40	0.68	-1.42	-0.84	-1.08	-2.19	2.5	3.56	3.38	3.88	1.68	2.32	06:1	3.14	2.39	2.77	1.71	1.88	3.46	3.67	1.93	2.00	2.27	1.77	3.00	1.82
	Spleen	-1.49	-1.12	-0.62	0.56	-0.48	1.94	2.43	2.61	3.20	-0.44	0.73	-0.51	-0.49	-0.31	0.42	-0.29	0.35	-0.25	-0.10	0.07	-0.63	-0.65	-0.23	0.00	0.77	0.31	0.30	-0.41
	Pancreas	ł																											-0.47
	Kidney	Ę	-0.78	-0.55	2.14	3.40	-0.36	-0.17	-0.20	-1.03	-0.78	-1.53	-0.83	-0.18	-0.79	-0.32	-0.43	-0.12	-0.59	0.55	-0.34	-1.03	-0.91	-0.01	-0.18	98.0	-0.02	9.0	-0.50
re Sct)		-1.30	3.75	3.61	-0.29	-1.28	-0.34	-0.48	0.16	0.73	-0.31	0.78	-0.55	-0.09	-0.85	.08	-0.18	-0.83	0.31	-0.85	0.83	98.0	0.05	0.43	0.65	69.0	0.36	1.28	1.14
Mean(tissue)-Mean(Entire Set)	Livei				-0.63																								
e)-Me	Lung	ŀ			-0.52 -(																								
an(tissı	Intestine																												
Me	Stomach				6 -0.36											•													
	Ovary				-0.26																								
	Uterus				-0.35																								
	Sk Muscle	-0.28	-1.09	-0.21	-0.65	-1.10	-0.31	-0.49	-0.26	-0.35	-0.27	0.52	-0.49	-0.65	0.74	0.13	0.02	-0.73	-0.46	-0.87	-0.46	0.29	-0.39	-0.39	1.38	0.0	-0.22	-0.04	-0.32
	Heart	-1.16	0.10	-0.80	-0.52	-1.28	-0.47	-1.13	-0.37	-1.15	-0.53	0.42	0.05	-0.53	-0.60	-0.21	-0.51	-0.29	0.09	-0.61	0.16	0.18	-0.21	0.46	0.45	-0.49	-0.09	0.65	-0.25
	Clone ID	2923150	293495	4284270	958923	1921393	1447866	1666737	586245	194162	243123	382416	1852659	3220181	1726307	1904244	2039955	2675641	1412749	1963854	2949085	2963196	1505977	1674985	2109054	3317039	2838551	1477568	2963871

Table 5

		_					_																						
	Fourth																												
	Third																												
	Second																								Heart	Неап	Uterus	Intestine	Lung
	First	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain	Brain							
	Brain	3.15	3.68	1.71	1.70	3.97	2.66	3.03	1.68	2.68	3.59	2.95	3.71	2.75	3.8	2.82	2.49	2.14	6.58	3.38	3.23	2.16	2.63	4.06	3.18	2.16	1.78	1.77	2.78
	Spleen	0.24	-0.6	2	-0.14	0.13	-0.67	-0.92	0.0	-0.20	-0.30	-0.60	-0.20	0.51	-0.61	-0.14	-0.05	-0.36	-ii	-0.03	-0.62	-0.60	0.10	-1.37	-0.50	0.01	-0.66	-1.17	-0.75
	Pancreas	-0.47	-0.80		-0.52	-0.30	-0.55	-1.16		×	-0.68	-1.00	-0.20	-0.78	-0.75	-0.33	-0.34	-0.92	-1.94	-0.23	0.07	-0.14	-0.91	-0.86	-1.54	-0.61	-0.55	<del>.</del> 8	-0.15
	Kidney			×					×																			-0.55	
re Set)	Liver	1.				_																						-1.05	
san(Enti	Lung	ı								•											•		•					-1.03	-
suc)-Mo	Intestine																				•		•					1.61	
Mean(tissue)-Mean(Entire Set)	Stomach																				•		•					0.57	
	Ovary	-0.60																			•		•					-1.49	
	Uterus	-0.44	-0.09																									-1.19	
	Sk Muscle																											0.98	
	Heart	-0.31	0.10	-0.29	-0.51	0.07	0.36	0.28	0.13	-0.42	-0.06	-0.39	-1.03	-0.53	0.11	-0.62	0.60	-0.47	-0.37	-0.65	-0.35	-0.47	-0.10	-0.67	1.89	1.96	1.40	0.70	-0.84
_	Clone ID	1740547	2292011	1349484	1674253	1932189	1403041	1486358	1439065	530629	1672676	1989129	1486348	1397294	2844322	1481440	26459	1406786	1485846	2153242	2157981	3244361	1986737	2506867	1211682	1416354	2963962	1761086	258852

Table 5

	r	_		
	Fourth			
	Third			
	Second	Liver	Liver	Pancreas
,	First	Brain	Brain	Brain
	Brain	1.73	1.90	2.55
	Spleen	0.30	-0.26	-0.05
		-0.87	-0.23	2.34
	Pancreas	141	08.0	.50
Set)	Kidney		1.67	
Entire	Liver			•
Mean(	Lung		-0.51	- 1
issue)-Mean(Entire Set)	Intestine		-0.52	-
Mean(	Stomach	-0.51	-0.23	-0.79
	Ovary	-0.34	-0.64	-0.86
	Uterus	-1.10	-0.84	-0.82
	Sk Muscle	-1.96	-0.43	-0.07
	Heart	-1.09	-0.04	-0.86
	Clone ID	1901271	1740924	1480159

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What is claimed is:

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1. A plurality of cell and tissue specific polynucleotides selected from SEQ ID NOs:1-416 or the complement thereof.

- 2. A subset of the polynucleotides of claim 1, wherein the subset is selected from at least one of the groups consisting of
  - a) SEQ ID NOs:209-218 and 1-10, cell specific polynucleotides of heart and fragments thereof,
- b) SEQ ID NOs:219-249 and 11-41, cell specific polynucleotides of skeletal muscle and
   fragments thereof;
  - c) SEQ ID NOs:250-251 and 42-43, cell specific polynucleotides of uterus and fragments thereof;
  - d) SEQ ID NOs:252-256 and 44-48, cell specific polynucleotides of ovary and fragments thereof;
  - e) SEQ ID NOs:257-263 and 49-55, cell specific polynucleotides of stomach and fragments thereof;
  - f) SEQ ID NOs:264-283 and 56-75, cell specific polynucleotides of intestine and fragments thereof;
  - g) SEQ ID NOs:284-293 and 76-85, cell specific polynucleotides of lung and fragments thereof;
  - h) SEQ ID NOs:294-345 and 86-137, cell specific polynucleotides of liver and fragments thereof;
  - i) SEQ ID NOs:346-356 and 138-148, cell specific polynucleotides of kidney and fragments thereof;
  - j) SEQ ID NOs:357-374 and 149-166, cell specific polynucleotides of pancreas and fragments thereof; and
    - k) SEQ ID NOs:375-416 and 167-208, cell specific polynucleotides of brain and fragments thereof.
    - 2. The composition of claim 1, wherein the polynucleotides are immobilized on a substrate.
- 30 3. A high throughput method for detecting expression of a polynucleotide in a sample, the method comprising:
  - a) hybridizing the polynucleotides of claim 1 with the nucleic acids of the sample under condition to form a hybridization complex; and
  - b) detecting the hybridization complex, wherein the presence of hybridization complex indicates expression of the polynucleotide in the sample.
    - 4. The method of claim 3 wherein the nucleic acids of the sample are amplified prior to

hybridization.

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5. The method of claim 3 wherein hybridization complex formation indicates the differentiation of embryonic stem cells into a tissue selected from the group consisting of brain, heart, kidney, liver, lung, muscle or pancreatic tissues.

- 6. A high throughput method of screening molecules or compounds to identify a ligand, the method comprising:
  - a) combining the polynucleotides of claim 1 with molecules or compounds under conditions to allow specific binding; and
- b) detecting specific binding, thereby identifying a ligand which specifically binds to the 10 composition.
  - 7. The method of claim 6 wherein the molecules or compounds are selected from DNA molecules, RNA molecules, peptide nucleic acids, mimetics, peptides, and proteins.
  - 8. An isolated polynucleotide selected from SEQ ID NOs:212, 228, 233, 259, 271, 287, 316-319, 324, 370, 379, 380, 383, 410, and 412 or a fragment thereof.
- 9. The polynucleotides of claim 8 wherein the fragments are SEQ ID NOs:4, 20, 25, 51, 63, 79, 108-111, 116, 162, 171, 172, 175, 202, and 204, respectively.
  - 10. An expression vector containing a polynucleotide of claim 8.
  - 11. A host cell containing the expression vector of claim 10
  - 12. A method for producing a protein, the method comprising the steps of:
    - (a) culturing the host cell of claim 11 under conditions for the expression of protein; and
    - (b) recovering the protein from the host cell culture.
  - 13. A protein produced by the method of claim 12.
  - 14. A high-throughput method for screening a library of molecules or compounds to identify at least one ligand which specifically binds a protein, the method comprising:
- 25 (a) combining the protein of claim 13 with the library under conditions to allow specific binding; and
  - (b) detecting specific binding between the protein and a molecule or compound, thereby identifying a ligand which specifically binds the protein.
- 15. The method of claim 14 wherein the library is selected from DNA molecules, RNA
   30 molecules, peptide nucleic acids, mimetics, peptides, proteins, agonists, antagonists, antibodies or their fragments, immunoglobulins, inhibitors, drug compounds, and pharmaceutical agents.
  - 16. A method of purifying a ligand from a sample, the method comprising:
  - a) combining the protein of claim 13 with a sample under conditions to allow specific binding;
- b) recovering the bound protein; and
  - c) separating the protein from the ligand, thereby obtaining purified ligand.

- 17. A composition comprising the protein of claim 13 in conjunction with a pharmaceutical carrier.
  - 18. A purified antibody that specifically binds to the protein of claim 13.

## SEQUENCE LISTING

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cagtctaatg catcttcact gaggtatatg tggcaacctt ctgtcttatt aatggaaatt 420
gttggcactc tccccattac ctggatttga atgtcctggg agttgatcac ttccacaatg 480
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tcgtgccatg aaggaggaca gtgaaaaagt tccgagcttg ttaactgatt atattctgaa 180
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eeggagtetg etgeacactg eggetgeett tgactteece aegagettee ageteacega 180
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teceaettta gaeaggaatg aaettetttt gaacatggea caaaaggate aeegtaataa 180
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<221> unsure
<222> 85
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<213> Homo sapiens

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340, 446-447, 467
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<221> unsure
<222> 156
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gctggactgg aggcccctgg agccagatgg caaganggtg acagcttcct ttcctgtgtg 180
tactctgtcc agttccttta gaaaaaatgg atgcccagag gactcccaac cctggcttgg 240
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 <222> 389
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atggaagaac tgaaggtatc tttcagcaaa gggcttggaa cagagacggc agaatttgct 240
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cagaatcaac aagactctga acgggctgcc catgctaaag agatggaagc cttgagggct 360
aaactgatga aagttattaa agaaaaggna aacagtctgg aagccatcag gtcgaaactg 420
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<221> unsure
<222> 117, 189
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geggtteett geeetettet tggeatttge cateaactte atettgetgt tttataaggt 180
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tσ
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<221> unsure
<222> 233, 269-270
<223> a, t, c, g, or other
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<400> 39

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ccaaggccaa ggaatgctgg gagcaggagc acgaggagcg cgaggctgag aaggtgcgct 180
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<223> Incyte ID No: 973815T6
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<221> unsure
<222> 308, 446
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cacgitgate teatattet getgttteag ettegeeate aggtegaact teteagacte 180
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<222> 267-268, 279, 284, 287, 290, 295, 297, 299, 305, 312, 318, 333, 338-
339, 344, 351, 353, 356, 360-362, 364, 366, 378, 397
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atctacactg ctgcccactc ctctcccag ctccacatgc tgtacctgga tcattctgaa 180
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tggctgtcac attgtagtag ggaggttggg actgatcata gtgcatccta ttctgaactg 360
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<223> a, t, c, g, or other
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agtctgggga agacaaccag gaccttgcta tttc
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<210> 60
<211> 294
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<221> unsure
<222> 239, 244, 256, 267, 270
<223> a, t, c, g, or other
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ctgatgccca ggagcagcgt ggggcaaatg accaggactt tgccgtctcc tttgcagagg 180
atgcaagete aagtettaga getttggget caacaaggge tttcattgce attgcagang 240
gtcntgttat tcaacngaat attctanggn actgcatgtc atgggaaaaa ccaa
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<211> 408
<212> DNA
<213> Homo sapiens
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<220>
<221> unsure
<222> 12, 34, 69, 87, 97, 102, 131-132, 136, 151, 246, 250-252, 254-256, 262, 281, 297, 327, 350, 353, 356, 358-359, 367, 372
<223> a, t, c, g, or other
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gggaacagng aggtggtgca ggataanaaa tactgtnagg gngaaggaac actcccccaa 120
gctggcagga nnatgnggca gcaatgtaca nagcctcggg agtagagtcc agggacaggg 180
aggtgggttc aaggctggct tggaggccaa gggtgtcccc cttagctcaa gaagccacag 240
aaattngtgn nncnnngggg tnggcccatg agcatgggca nctggttctt gtgggtnatc 300
ttgattgtac agggcgtctg catccanggt tctccgtcaa tttgcatggn aanggntnnt 360
gtggtgngga angtgatctc agagcacttg gccagccgac gtccagca
<210> 62
<211> 210
<212> DNA
<213> Homo sapiens
<221> misc_feature
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<400> 62
gatttcttca cctccctggg gctgctgccc gtgcctcctg agttctggaa caagtcgatg 60
ctggagaagc caaccgacgg gcgggaggtg gtctgccacg cctcggcctg ggacttctac 120
aacggcaagg acttccggat caagcagtgc accaccgtga acttggagga cctggtggtg 180
gcccaccacg aaatgggcca catccagtat
<210> 63
<211> 296
<212> DNA
<213> Homo sapiens
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<221> misc_feature
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<220>
<221> unsure
<222> 3, 21, 33, 67, 151, 162, 165, 262, 295
<223> a, t, c, g, or other
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cttctgccgc agcagatcac ggcgcgcatg ntgtgcgtgg gnttntcagc ggcggcgtgg 180
acttetgeca gggtgattte gggggaeeee tgteeagegt ggaggeggat gggeggatet 240
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<211> 262
<212> DNA
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tagececett cagettetae accettetge ceteteteca ttgeetgeae eccaceceag 180
ccactcaact cctgcttgtt tttcctttgg ccatgggaag gtttaccagt agaatccttg 240
ctaggttgat gtgggccata ca
<210> 65
<211> 281
<212> DNA
<213> Homo sapiens
<221> misc_feature
<223> Incyte ID No: 2921152H1
<400> 65
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gatggagagt gagaagaatt atgatgagtt catgaagctc cttgggatct ccagcgatgt 120
aatcgaaaag gcccgcaact tcaagatcgt cacggaggtg cagcaggatg ggcaggactt 180
cacttggtcc cagcactact ccgggggcca caccatgacc aacaagttca tgttggcaag 240
gaaagcaaca tacagaccaa tggggggcaa gacgttcaag g
                                                                   281
<210> 66
<211> 234
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 1846428H1
<220>
<221> unsure
<222> 216, 222, 225, 229
<223> a, t, c, g, or other
<400> 66
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tcaaagacct ccaggagccc caggagccca gggttgggaa actcaggaac tttgcaccca 120
tccctggtga acctgtggtt cccatcctct gtagcaaccc gaactttcca gaagaactca 180
agectetetg caaggageee aatgeeeagg agatanttea gnggntggng gaat
<210> 67
<211> 258
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 2796143H1
<220>
<221> unsure
<222> 3, 27, 43, 57, 64
<223> a, t, c, g, or other
<400> 67
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tetnegecee tgetgggate ggetgeteee tettetggge gteetggegg eeggacegae 120
aacgcagcaa tccaacgaac ttctgcctgg tgtcgaaggt ggtggggcaa gatgccgggc 180
ctccatgcct aggtggtggt acaatgtcac tgacggatcc tgcccagctg tttgtgtatg 240
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<210> 68

ggggctgtga cggaaaca

258

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<211> 370
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<223> Incyte ID No: 1805613F6
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<221> unsure
<222> 155
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tacatccatg gtgagcttta taagaatcgc gtcanatatc caacaatgct gagcagtccg 180
atgcctccat caccattgat cagctgacca tggctgacaa cggcacctac gagtgttctg 240
tetegetgat gteagacetg gagggeaaca ceaagteacg tgteegeetg ttggteeteg 300 tgceacecte caaaceagaa tgeggeateg agggagagae cataattggg aacaacatee 360
agctgacctg
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<211> 235
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 1431273H1
<221> unsure
<222> 20
<223> a, t, c, g, or other
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agaggcagcc ctactggagt ctcggattct ttacccaaag aggaagcagc agtgcctgca 180
attittetat aaaatgacgg gaagteette agacagacte gitgietggg teagg
<210> 70
<211> 279
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
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gattettgea attaacaage ettteaagat gateecegga gtggtggatg gggtetteet 120 geecaggeae eeceaggage tgetggeete tgeegaettt eageetgtee etageattgt 180
tggtgtcaac aacaatgaat tcggctggct catccccaag gtcatgagga tctatgatac 240
ccagaaggaa atggacagag aggcctccca ggctgctct
<210> 71
<211> 269
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2921194H1
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<221> unsure
<222> 265
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ttegetecat gatgegttat etgggtetgg aaacccaaac ceteaaggat ggeetggege 120
atgggggaac cageetgetg gggeaggggg etaeceaggg gettetatee tggggeetae 180
cccgggcagg cacccccagg ggcttatcct ggacaggcac ctccaggcgc ctaccatgga 240
gcacctggag ttatcccgga gcacntgca
<210> 72
<211> 334
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 395368T6
<220>
<221> unsure
<222> 29, 77, 88, 91, 94-95, 102, 105-106, 153-154, 157, 179-180, 182, 187,
211-213, 219, 229, 255, 260, 270, 274, 279, 286, 291, 300-301, 303, 305,
311, 313, 316, 319-321, 323, 332
<223> a, t, c, g, or other
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cactactgca aaaatanatt atttttancc nccnnactct cnttnnagct ttgcctgctc 120
agateteaat eteaceagta gecetttatg etnnggnttt eteaagaece tettettenn 180
gngagtngac tetteetttt teeteeccat nnngetgeng acaattttne attaggttet 240
tacttaggat cactnitach atcatcitch githreateng atcithecti higitigeen 300
ntncnttgct nancangenn nenceaacta gnac
<210> 73
<211> 301
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 2182861H1
<220>
<221> unsure
<222> 11, 27, 47, 50, 53, 56, 277, 289, 298
<223> a, t, c, g, or other
<400> 73
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actetecaca eccageatea teaggaceae aggeetgagg ecctaceett ectetgtget 120 tatetgetgt gteetgaaeg acacetacta egcaceaggt gaggaggtgt acaaeggeae 180
atacggagac acctgttatt tcgtcaactg ctcactgagc tgtacgttgg agttctataa 240
ctggtcctgc ccatccacgc ccttccccaa cacccangcc ctccaagtng gacggccnag 300
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caaatgggaa aatataaaca aaattacaca ttttatcttt taaaatctac tttaattctg 120
ttataaaatt tataatgcag tttaaactat gatttetete caettgatga tgteteteac 180
tetgtteett taattacgaa gtetetgaag actetgaact tgaetgagga aatgttaaac 240 agatacetet teataattet gtaagtgttt gettttaact ttgaataaat gteatateta 300
aacaaatatt aaaaagtatt taacatctca tacagtcaga gttcactggc gctttgttcc 360
agcctggaca ctgaccattg aaaaatagat gcctttctgt gccagcagct gctgatgcgn 420
genngnneet tggaetetgg ceattetgaa acaccactat taagtetgea ttetggatgg 480
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<211> 258
<212> DNA
<213> Homo sapiens
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aatgctteea gageteatgt agettteeca gatttettea ggaetteeac ageagagtgg 120
tgggccagag aaattgtgga cttttacaat gaaaagatga agtttgatgg tttgtggatt 180
gatatgaatg agccatcaag ttttgtaaat ggaacaacta ctaatcaatg cagaaatgac 240
gaactaaatt atccacct
<210> 76
<211> 255
<212> DNA
<213> Homo sapiens
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tgtgcccttg ccccttcccc ccagccctgt gctgatcctc cctgagatag ggcctcagga 240
ccagggaacc tacag
<210> 77
<211> 254
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 1910091H1
<400> 77
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tecetegegg tgcagaaagg ggagtgette ggeetgetgg getteaatgg ageegggaag 180
accacgactt tcaaaatgct gaccggggag gagagcctca cttctgggga tgctttgtcg 240
ggggtcaaaa atca
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<210> 78
<211> 61
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<212> DNA

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<223> Incyte ID No: 2174130T6
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<210> 79
<211> 247
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 2219077H1
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<221> unsure
<222> 231
<223> a, t, c, g, or other
<400> 79
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aatacagact gccccagttc attgaatttt agataaatga aataaatcta taaggttaag 120
tatgtcccca gaactgcatg gaacatgtta atctaaacaa tgatttgttg ttcacctgaa 180
attcaaattt agctgggtgt cctgtatttc atctggcaac cctacttcag ncccaggtgt 240
aaggtac
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<211> 249
<212> DNA
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<221> misc_feature
<223> Incyte ID No: 1965041H1
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<221> unsure
<222> 6-7, 27-28
<223> a, t, c, g, or other
<400> 80
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taatgateta atataateae teagtgeaae attgagaatt ttttttaat ggeteaaaaa 180
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cttagctaa
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<221> misc_feature
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<221> unsure
<222> 282
<223> a, t, c, g, or other
<400> 81
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gttgacagag etgeagteec agateteega cacatetgtg gtgetgteea tgggacaaac 360
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gggtgacaag ttcaagctca acaagtcaga actaaaggag ctgctgaccc gggagctgcc 180
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<223> Incyte ID No: 2510171H1
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<223> a, t, c, g, or other
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aagagatgtt gtcctgacac ttgtggcatc aaatgcctgg atcctgttga caccccaaac 240
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<211> 215
<212> DNA
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<400> 84
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eteccettga agetgeteat geoccagtge aaccaagtge ttgacgacta etteccettg 180
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<210> 85
<211> 120
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<211> 207 <212> DNA

<210> 87

<210> 88

<222> 188, 463

<400> 86
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tacgactece ceetgagaag gtgaaceee tgggggtge agtggeetta gggagaceae 120

tacgactece ceetgagaag gtgaaceee tggggggtge agtggeetta gggeaceeae 120 tgggetgeae tggggeaega caggteatea egetgeteaa tgagetgaag egeegtggga 180 agagggeata eggagtggtg teeatgt 207

<211> 477 <212> DNA <213> Homo sapiens <220> <221> misc\_feature

<223> Incyte ID No: 1504934T6

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<222> 13, 234, 251, 289, 426
<223> a, t, c, g, or other

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gcctccgtca cgcggtccac attctcgcgg gtggcattgc agcccagcag gccgatccgc 360
agcaccttcc ccgtggaggg cccaaggcca cccatgatct caatgtcgaa gtggtccatg 420
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<223> a, t, c, g, or other

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aattttacat caatttccat ttctttggaa agccccaaa tgtaatttat tgataaaatc 120
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aggctganga ctgccacaag ggaaaacatc tgtattgtct caaaacatca gaatggtacg 240
gatacttttc ccagagtgaa gcaggtcaaa tccttcattt atttttcaa aaggtaaaac 300
atgggttatt aatgcatca atgaaaactt cttagccata aaatcagcca caagttttgg 360
gacacattct ttactttaa agccaccaag aatagctccc ttccaggtac gtccagtcag 420

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tagcagcata gggttcatt
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<210> 89
<211> 360
<212> DNA
<213> Homo sapiens
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<220>
<221> unsure
<222> 134, 172, 288, 298, 319, 321, 327-328, 359
<223> a, t, c, g, or other
<400> 89
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ccaggaataa tctttgcatg tcacatttag agataaagct caaaatgcaa atccttcccc 120
tgagagtggg aaancattaa caaatgagag tgggaaaagc attaacaaag cnttaacaca 180
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tggtagttaa tagaaaagtt ctagattgaa aacaattttg caaaaatnta catttgtnta 300
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<211> 597
<212> DNA
<213> Homo sapiens
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<220>
<221> unsure
<222> 201, 260
<223> a, t, c, g, or other
<400> 90
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atttcccatc aatttccatt tctttggaaa gctcccacgt gtaatttatt tttaacatct 120
ctgaagagca gaattaatga tatttcctag ctgttgctcc agatcatgta gggtagagga 180
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atactettte cagagegaan aggteaaate etteatttat ttttteaaaa ggtaaaatat 300
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cagattettt actettaaag eetecaaaaa tageteettt eeaegtgegt eeagteagta 420
gcagcatagg gtttattgag aggttctggg aatcaggagg tacccctaca atgacacttg 480
tgccacatgc ctcatgacaa cataacaggg aagccatcat ggtgtcaagc cgaccgatga 540
cttcaaacga aaaatccaca cctccatcag tcatttcctt tagcacttcc tgaatgg
<210> 91
<211> 359
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<213> Homo sapiens ·
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<221> unsure
<222> 5, 13, 17, 23, 34, 38, 44, 68, 89, 159, 161, 310, 346, 357
<223> a, t, c, g, or other
<400> 91
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actataaatg gaacattett tggtggttgg aaaagtgtng nttetatece aaagetggte 180
actgactata agattaagaa attcaatctg gatgcactgg tgacccatac cctgcctttt 240
gacaaaatca gtgaggcatt tgacctaatg aaccaaggaa aaagcatccg aacaatcctc 300
atcttttgan gatgccagga gcaattcgga atactatctg attgantgtg aacctgnct 359
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<211> 249
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ggttagctgc tccccacgtc agctgggaca ccccgacttt tgtttaccag agaaaaaggg 180
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<211> 254
<212> DNA
<213> Homo sapiens
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<221> misc_feature
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agttaaccag tteegtteea geettettga teaggggtgt cagetgetee tttgaetttt 180
caaagtaaga cttggcctcg gcctgaagct ctgggggctct tgaccttctc catcaggtcc 240
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<211> 142
<212> DNA
<213> Homo sapiens
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atttcccaca ccccagegee tgtgctgagg actccctcca tgtggcccca ggtgccacca 120
ataaaaatcc tacagaaaat tc
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<211> 264
<212> DNA
<213> Homo sapiens
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<222> 257, 260
<223> a, t, c, g, or other
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tagcccgacc ttcctcaccc aggtgaagga atctctctcc agttactggg agtcagcaaa 180
gacageegee cagaacetgt acgagaagae atacetgeee getgtagatg agaaacteag 240
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<211> 285
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<213> Homo sapiens
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272, 274
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tectneaacg gggetatgtn teegaggagg gatgagaaag tttatetgee eteteacagg 180 actttggeee ateaacacte tganatntae acceagagta tgteetttng entgaatett 240
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<222> 45, 96, 129, 270, 277, 300, 307, 322, 333, 353, 364, 366, 373-374, 385, 391, 397, 408
<223> a, t, c, g, or other
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tataagcttt taaatttcaa aaaagttaga atttccacat cttgaatttt acaccaagag 240
ggaattigta gagittatac taatiggaan aacatintic tgaaagaaca agictitagn 300
aggatanete tatgettaag anaatgatta genttetaat tatgeeatta aenatgagat 360
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<211> 566
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<221> unsure
<222> 539
<223> a, t, c, g, or other
<400> 98
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gaaataaatt aaaggagagg tggctcctgg ctggccttgt ccagctctgt ctcgcagacc 240
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tggaggccca tccaggtgtt cacagggcct atgtggtgct ggacaaattt ctgctcctcc 480
caggaacgtg accaccacca ggtgcgcgtc ctccagccgg cagtagttgt cggcgtaanc 540
caaggeettt eeeggaageg agaaga
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<211> 459
<212> DNA
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tggggtgtct gcatctctat gctgcttttc cagcactgta ctgcctgtag tggaaaagac 180
tettggagte cacettgega gatttetgea eagetteage aaaaagtttg gteacetgaa 240
aattagtgag gagagggatt ccactatcaa cagctgtcct ccgaatcaca taattatcat 300
ggacaaattt agtgttgttg ttgggaaggt taatcactag gtcaatgctg ccatctctaa 360
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<211> 83
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tcccagaaag atctggagct gga
<210> 101
<211> 300
<212> DNA
<213> Homo sapiens
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<221> misc_feature
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<221> unsure
<222> 19, 21, 34, 114, 130, 135, 139, 143, 210, 217, 243, 261, 277, 299
<223> a, t, c, g, or other
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tgacaacggn aaggnetgna ttnecacagg geeetaceee tgtgggaaac agaceetgga 180
acggaggaag aggtcagtgg cccaggccan cagcagnagc ggggaggccc ctgacagcat 240
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<211> 210
<212> DNA
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cactgacttc tcagcactgg agctgtgtgc cggcctcacc tcctcacttc gtccaggacg 180
tggaactggt ctgcagcctc gcanaagccg
<210> 103
<211> 241
<212> DNA
<213> Homo sapiens
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<221> misc_feature
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<221> unsure
<222> 94, 134, 152, 173, 176, 181, 189, 201, 203-204, 224, 229
<223> a, t, c, g, or other
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tctcagcaga catnaagcac tactatgagt cngaggtctt ggctatgaat ttncangact 180
ngggaacanc cagcagacag ntnnacagct atgtcaagaa taanacacng ggggaaattt 240
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<211> 228
<212> DNA
<213> Homo sapiens
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<221> misc_feature
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<221> unsure
<222> 49, 98, 126, 185
<223> a, t, c, g, or other
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ategantect ttttcateca catgeaggag geacegagae ggteageace accetgeget 180
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<211> 503
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aattgcagat atatttgtgc agtgacctga acaactctcc ttaatggagt ttggatgctt 180
atgggatatt gagtgaatgg gaagatttga tgagaggtca gagaagacat aatagtggga 240
atgtccttga taaaaaaaga gttgcaggtg atagcagatc ggcagccaga tgggctagca 300 ttcttcagac agggatgaag cagatctggt atgagggtgg cagagaaaca atccctttgg 360
taactgcagt agtattgagg ttctttaaat catcaacaga tttcaggtta aagttctgta 420
aaattgtggt tagaaataaa aatageteea tgegggeaag teetteteet geacaatteg 480
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<221> unsure
<222> 9, 294, 310, 376
<223> a, t, c, g, or other
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cataaataac cggggattct gtacatgcat tgagctctct cattgtctgt gtagagtgtt 180
atacttggga atataaagga ggtgaccaaa tcagtgtgag gaggtagatt tggctcctct 240
getteteacg ggactattte caccacecce agttageace attaacteet cetnagetet 300
tgataagggn aatcaaccaa tttctcaata aatttccttc acaaaattta ttaattggaa 360
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<211> 210
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<223> Incyte ID No: 234123H1
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<221> unsure
<222> 110, 178
<223> a, t, c, g, or other
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acacagatgg acaagccaac cgaggtgaat cagatcctca ttaagtggct ggattctnat 180
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<211> 441
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caggttggcg aagagcaccc ggaacttcag agggacgtag ttgatgttga tgaactgtag 360
tggcgtccac acccgccagt tcatcctcag cgccggccag aagcccccc tcatcttggc 420
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<211> 336
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<221> unsure
<222> 198, 315
<223> a, t, c, g, or other
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tettggeett gtgggggnea etecaggtgg eetggeecat ggaegteate accaetgtgg 240
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ggataaggta actccaagcc atgagtataa gattaaggca gttactttat tttgaacaag 180
gaagtggcat aagcaactca gtgtgtgccc cttagggtgg gagctcttcc ccctaccact 240
ccccacccca aggicateatt ttggagaaaa aagtgtette tatetggeta getgtgttat 300
ctaggattgc accttcttac acggcaggcg cggcatcacg tccagatggg catctaagga 360
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gaccactcgt gtctgcatgg gtttcaacga ccggtcccac tgggtcagta tggcatttct 480
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ttaagaatta ctatgttaaa tttctaatcc aaatgtaaaa caagaataca ggatattggc 180
aatgctaata ttcaaaatgg gttaccccag ttcataattc ctctgctccc ctcctaccta 240
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tgttgagttg tatgattttc tttacaggta caatttactt ttcagcaacc tgtaagccat 360
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gcccaacttt atgcttttnn aaagagagac tccagcttaa acatttatca cttctcacca 240
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<222> 87
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ggtaacagtt attctgttgt tataaaacta tacccactgc aaaagtagta gtcaagtgtc 180
taggtctttg atattgctct tttggttaac actaagctta agtagactat acagttgtat 240
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<211> 315
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<222> 45, 51, 156, 159, 281, 313
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acccataacc aaggteatgt tgccatggec acggencane acctgggeac ttaagaagge 180
gaggeccagg taaaggacce tgtcccttcc attgcagaca aattggatct gtgtaccgac 240
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<211> 300
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<222> 177
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gaaatettea caaatetaet ettaattatg gtageaatgt teeagtetea attaggntet 180 getgggttee tggagtgga gtgaagtgge tettgagtgg etceeageae ttgtgggagt 240
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<221> unsure
<222> 107, 228, 344, 365, 390, 432, 438, 447, 449, 471, 475, 508
<223> a, t, c, g, or other
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acaagttaac cgtcctcctt caaactagct gagaaactac tctctcttat ttcattttgc 180
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gggaccanat aatcagagtn gggaccatcg tgaatccagn cccattgttg tgaatgnacc 180
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agcccaacaa tggaaaacta agcacctatt ttggaaaact gggattttat ttccaaagtg 180
aagacataaa aatagaaatc agcactgaga ccatcaccct gagccatggt tctagcacat 240
teteettgte etggteegae aeggeteaag teaegaatea gagggtgeag ateteagtga 300
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<222> 44, 209
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ccttaattta gttgtgttaa tttttcaagg tgatgtatca acagcttttt ttatttgcat 180
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<212> DNA
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caccacctet getgtcatgg ttcactgcct gegacagaag aeggaagagg agetettgga 180
gacgacattg aaaatgaaat tettatetet ggacttacag ggagacceca gagagagtea 240
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gtgcttctcc agtggctcac acttatcctt tttccaatcg gtgtacacga catctgactt 180
gggaatgege aanagtegag agettegtag aacteteeea gttgeteett ggtegtetet 240
ggcttgtcag catagacaga cagcccccag ttcttctcat cgttcacgtc aaaagcaagc 300
atgtaggtet tggtgteect gaggateage aagtgagega aatgetettg geeteeaeg 360 tatetggaga tggteecatt tteeegetgg acatteaggt aggtggtgnt atagatgaet 420
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<222> 69, 88, 90-91, 265
<223> a, t, c, g, or other
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gccacgccga ccctgcctgc gacgcggaag ccaccttctc ccagcgctga aacttgatgg 180
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tactcctgcc gcctcctgaa cctcgatggc acctgtgctg acagtactcc ttcgtgtttt 240
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ctgggtggcc tgttacaatg gaggaagagt gattcgttta gatcctgtga cagggaaaag 180
acttcaaact gtgaagttgc ctgttgataa aacaacttca tgctgctttg gagggaagaa 240
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<211> 248
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<222> 137, 246
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gaagcttett ttegtteett ggegaggett ttgatgggge tegggacatg tggagageet 120
actotgacat gagagangco aattacatog gotoagacaa atacttocat gotoggggga 180
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<211> 262
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ttcatgctat cagaaacagt attttcttcc caaatcaaaa taaaagaaat atgatcagag 180
cttgaacaca ggcttatttt taaaataaaa atatttttaa catgggtttc cttattgaaa 240
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<222> 338
<223> a, t, c, g, or other
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aatcccagct gggatgctga ggtgatccgg cccctaccca tggacagcag tgcctattcc 240
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tttcttagag tctgaggaaa tggttggggg cacaaattct ctcaatcttt ttctttccc 240
tcatcctgag ctcttatttt cttgtctcaa ctgctttctg gtaaactttg ttcacctggt 300
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gttccagaaa gtactggaga gcaggatttg cgaaatgatc cagaaatcgg gatnctccga 240
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<211> 213
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<222> 29, 225
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<222> 521, 531
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<221> unsure
<222> 211, 511
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<222> 24
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<221> unsure
<222> 519, 531
<223> a, t, c, g, or other
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<221> unsure
<222> 132
<223> a, t, c, g, or other
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cattgagetg angetggtta getggtagee eetgagetee etcateecag eageetegea 180
cacteectag gettetacee teecteetga tgteectgga acaggaacte geetgaceet 240
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eggtttgetg gaaactatga cetagtetac etgeactgtg aagtetatet etgtgacace 240
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<211> 218
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<221> unsure
<222> 3, 8, 11, 47, 58
<223> a, t, c, g, or other
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<221> unsure
<222> 54, 73, 88, 97, 101
<223> a, t, c, g, or other
<400> 151
tggtggcgga gaacccgcac cttgtcagca agatccagat tggcaacacc tatnaagggc 60
gtcccattta tgngctgaag ttcagcangg ggggcantaa nc
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<210> 152
<211> 527
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2075464T6
<400> 152
ecceagggee ctaatagggg tggtetegea catgetecat gattgeette aagecaagee 60
aggteteete ggetgtggge aggatetgae gggetggeaa gaggaageeg tagegeeetg 120
tgtctctcag ttcaaaggca aatgagtact tgatgccata atcataggac cagtcaatgc 180
ttcctccact ggcttggtag atgacagagc agattggtcc cactttgtac ttggtgccat 240
gcaggettet cagagattgg gcageetttt gggecaette acteagetea tcaaagteat 300 ctaaettggt acatttgtae ccatagggga acatcageag etgggaatag etgtggaggg 360
taatgaagge ettgactttt ecatgactet tgatgaagte cactatggat ttcacttcaa 420
cttcagagtt ggcactgggt ccgtggtatg aatcagagca agggttgctg ctggctccag 480
gtcctccaaa acctgcatcc cagttccggt taggatccac accaaca
<210> 153
<211> 232
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 2383235H1
<400> 153
cactcaccat ggagaagatc ctgatcctcc tgcttgtcgc cctctctgtg gcctatgcag 60
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cccagtgtaa gagcaattgc tgccagcatt caagtgcgct gggcctggcc cgctgcacat 180
ccatggccag cgagaacagc gagtgctctg tcaagacgct ctatgggatt ta
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<210> 154
<211> 234
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 1285503H1
<220>
<221> unsure
<222> 155-174
<223> a, t, c, g, or other
<400> 154
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tgctcatgga attggagctc gtgggacagt cacctcatgg aattggagct cgtggaacag 120
ttacctctgc ctcagaaaac aaggatgaat taagnnnnnn nnnnnnnnn nnnntttggt 180
aaggggaatt gaggacactg atatgggtct tgataaatgg cttcctggca atag
<210> 155
<211> 446
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2383205T6
<220>
<221> unsure
<222> 156, 276, 323, 402, 412, 420
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<223> a, t, c, g, or other
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caagtctgaa acagtcccag ggacttcttt tggttagtta tttgcaatca ccgaattgat 60
ccagtcgatg taattggaga cccgcgtgaa gacggagggc ttgtggtagt agttgcagcc 120
gaggegagae cegaagetga egatgeegtg cacetneeae eggeegteag acqetgacag 180
ttcatgggcc cgccagatct ccgttgcagc tggagatcac gccatcaccc ccagcacaga 240
tcatactggt tttcacgctg ctgccccacc aggcanagct ggagcaggtg gatattccca 300
aacagcaacc ggccctgctg cangacatca ggaacagccc cgttggtctg cagccttccc 360
cagcccgtga cgtagcaggg gtagttgttg ggtagaatgg tnccggcaag anggaggcan 420
gccagctgga tcttgtcggt gaggga
<210> 156
<211> 294
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2015871H1
<400> 156
tgttgggtga gtacaacctt gctgtgaagg agggccccga gcaggtgatc cccatcaact 60
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tegeceteat caagetetea egeagegeee agetgggaga tgeegteeag etegeeteae 180
tecetecege tggtgacate etteceaaca agacaceetg etacateace ggetggggee 240
gtctctatac caatgggcca ctcccagaca agctgcagca ggcccggctg cccg
<210> 157
<211> 195
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 2374046T6
<400> 157
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tgctgagttc agggacttgg agacagcctt taacttctgg caaaaagaca atttcacaaa 120
ggtgtttaaa accatcettt ggtttttgat eetgagteag agaeggaeat gtgettatga 180
aagaaggtag agttt
<210> 158
<211> 437
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 1709828T6
<220>
<221> unsure
<222> 150-181
<223> a, t, c, g, or other
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cacaggtagt tttggtcagg ggttaatatt attgttgttt taaccaccgg ggccaggtgg 120
ncctittttg ctgtcttaca aactagggaa aaggggaggt tggggagaaa ctgggaagga 240
caacaggaga agtggtggtc tcatacctta tttcccccct ttgagcattt tcacttttta 300
gtgggagttc tcactctcat ctttactttt tgagtctatt tgtgagatag agcgatagtg 360
atttatataa cacacgtgtg ctgaaagttt ctgatgaacc aaagtagcta caaaaccttt 420
gatcatttga aaaagca
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<210> 159
<211> 265
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2061119T6
<220>
<221> unsure
<222> 143, 145, 148, 151, 194, 218, 233, 250, 257
<223> a, t, c, g, or other
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gcgtgttcct ttcccctttc tggggcaaaa gccactgcgg gccatgtacc caaataaacc 120
tettaatgeg tttgttaaaa ttngnttnga natetgagtt teeetetgaa gaaatggaaa 180
aagtgttggg tgtnccatcc cgcctcccc tccccgantg gcccattaag tcnctactaa 240
gagggcgtgn ctgctgnctc cggac
<210> 160
<211> 295
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 3665105H1
<220>
<221> unsure
<222> 26, 45, 50, 117, 131, 137, 148, 154, 169, 205
<223> a, t, c, g, or other
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agaggtgctg gtgaaggcct gcccaggcgg gtaccatgtg taccggtttg gaaggcnctc 120
cctggtgtaa nctgatntac tgcacagncc catncacctg tggaggacna gtgtgagaag 180
gcctgccgcc ccgaggagga gtgcntgccc tcaacagcac ctggggctgt ttctgcagac 240
aggacctcaa tagttctgat gtccacagtt tgcagctcag ctagactgtg ggccc
<210> 161
<211> 438
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2068983F6
<220>
<221> unsure
<222> 241, 246, 249, 252, 285, 347, 358, 407
<223> a, t, c, g, or other
<400> 161
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ttcaggcatt cacagataaa ctcattctct gtacttctag ggtagcatct ttatgtatct 120
attatgtacc tettatetat tgtgttatea tetetgttat agaagageet tetgtagace 180
atatagaaaa agattataga ggaggagaat ctactgctgg caattgggaa ccgcaaggta 240
nactanatna tntatcaaca actaatggcc atctaatgct atgcnggata tgaacttttg 300
gggcctcagg aaagaaaaac caggaactag tttcaataat gaggtgncat ggttcccngt 360
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aaagaagcag cttagaga
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<210> 162

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tgccgagtca ggaacagcca ggaagacgct gcacttcgag atttccaagg aaggcagtga 120
cctgtcagtg gtggagcgtg cagaagtctg gctcttccta aaagtcccca aggccaacag 180
gaccaggacc aaagtcacca teegeetett ecageageag aageaceege aggecagett 240
ggacacag
<210> 163
<211> 379
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 885032T6
<220>
<221> unsure
<222> 360, 364
<223> a, t, c, g, or other
<400> 163
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acaaaaatta tactcagtcc catcttcacc actttgcact gtgatttggg aagccccag 120
tttgggctca gatagattta tcccacgttt gttccagagg aatttaactt tctgtatttt 180
tccaacatta aaatccacat caatagcaca cgtgtgactt gcatctggtt tgagggatcc 240
tttgaaaatc tcatattgtt ttgagttttc attacttcca tacaaagcaa tcctgatgta 300
cccattcact ttctcttttc cagaaagtgt gactgatatc ttatatcttc aactagtaan 360
gttnccactc cctcctqtq
<210> 164
<211> 496
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 2383830T6
<221> unsure
<222> 211, 218, 220, 241, 277
<223> a, t, c, g, or other
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tgtccaggtt cttgtgtgcc ttgttatatg gagcttttga aaagcagatg gcagcgttgc 120 ggtcgcagtt gcaaatgaag gcctcacact ctttgttttt gctgctacag gtgattgccg 180
agccagagca cgagtatgaa taggtgtggg ngtacggntn gtccagcaga aatttacagc 240
ngtccagett cttggcctgg tcatagcagt tgtcatntgt ctggcagcac ttgtccagtt
catccacggg ggtgcctgag ccccccaagc cacagtagca gccgtagttg ttgtattcca 360
agaaggggtc actccccggg atcacgcact tgatcatttt gcggaactgc cacacggccc 420
gagggctgat gccgctgtcg gcggcggcca ctgtgaccag cacagctagc acaaggagtt 480
tcatcttgcc tcgagc
<210> 165
<211> 285
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2085191H1
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gatgatgaca agatcgttgg gggctacaac tgtgaggaga attctgtccc ctaccaggtg 120
teectgaatt etggetaeea ettetgtggt ggeteectea teaacgaaca gtgggtggta 180
tcagcaggcc actgctacaa gtcccgcatc caggtgagac tgggagagca caacatcgaa 240
gtcctggagg ggaatgagca gttcatcaat gcagccaaga tcatc
<210> 166
<211> 292
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2792982H1
<220>
<221> unsure
<222> 15, 100-101, 110, 159, 167, 198, 212, 218, 222, 229, 258, 269, 271-
272, 274, 288
<223> a, t, c, g, or other
<400> 166
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gttgggggct acacctgtga gaattettet eccetacean ntgteeetgn attetggete 120
ccacttctgc ggtggctccc tcatcagcga acagtgggng gtatcancag ctcactgcta 180
caagacccgc atccaggnga gactgggaga gnacaacntc anagtcctng aggggaatga 240
gcagttcatc aatgcggnca agatcatcng nnancctaaa tacaacangg ag
<210> 167
<211> 103
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 243123H1
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<221> unsure
<222> 57, 62, 67, 71, 89, 91
<223> a, t, c, g, or other
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anctggnaca ngggtgtccc gtgaggctnt ntcgggtctg ctg
                                                                   103
<210> 168
<211> 491
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 382416R6
<400> 168
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tecaagtett ccagtaaate aagtetteca geaaatecag tettecagea attactggte 120
ttccaccaaa tccagatctt ccaggaaaat ccacgtcttc caggaaatcc atgtcttcca 180
ataatttcaa ggtcttccat caaatacaga tcttccagct aatccatgtc ttccagaaaa 240
atctgtgtct tccaccaaat ccaagtcttc cagtaaatct agttcttcca gaaaaatcta 300
gatcttccag tcaatcagtg tcttccagaa agaaatccag gtcttccagt caatcagtgt 360
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<210> 169
<211> 275
<212> DNA
<213> Homo sapiens
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<400> 169
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cttgattaga ggtttgggca tataaccaga ttaaagtgaa ggaactttct gttgtttttg 120
tagcaccgct cagctgtctt gtaaaacagt gaacacacgc tttctggttc tagtaatcct 180 gggtgtttat cacgttcaga gaaactcaag ctattgcatg attagccccc tatctggcaa 240
ggaaacccca tacagaagaa acaacaaacc tgcgc
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<211> 322
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 3220181H1
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<221> unsure
<222> 208
<223> a, t, c, g, or other
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ctgccaatgt ctatccagac ataaacatca tcactggagc ccttaaactg tatttcagag 120
acttacccat ccctgtcatc acatatgata cctattccaa atttatagat gcagcaaaaa 180
tetecaatge agatgagagg etggaagngt ceatgaagtg etgatgetge tgeeteetge 240 ceaetatgaa acceteeggt acetaatgat eeaecteaaa aaggttaeta tgaatgaaaa 300
agacaatttc atgaatgcag aa
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<210> 171
<211> 211
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 1726307H1
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taatttgact tetgacatgt tggcaatcaa agcatgcact tgtaacaatg aaaaagaaaa 120
agcattttat attactactc aataaaatgt gcatgaactt acagaattct catccttcca 180
ctgagtccgc tgaagggatt tatgtgcaca a
<210> 172
<211> 324
<212> DNA
<213> Homo sapiens
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<222> 3-4, 33, 39, 47, 51, 56, 131, 161, 274, 298
<223> a, t, c, g, or other
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ttctttgaca caaaactcaa accgagtcaa cccaaagttc caagttcttt gctttctctt 120
ctgtgtgtag ngttggtttg tcccaaaagt cagtttgcaa nttgaaactt catgaaatta 180
ctcgtagcag aaataaagta cattgtacaa atcacgcagg tctgcgatgt ggagtataaa 240
aatggtattt acagccagta aacatggacc aganagacac gtacaactgc acaccggnac 300
acactcccaa gcaggccctc gggg
<210> 173
<211> 296
<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 2, 58, 62, 224, 247, 259
<223> a, t, c, g, or other
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aaaccancca acccctaana tcattttctt attgtacata acgacctcat tctcct
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<211> 97
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 2675641H1
<220>
<221> unsure
<222> 95
<223> a, t, c, g, or other
<400> 174
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<210> 175
<211> 134
<212> DNA
<213> Homo sapiens
<221> misc_feature
<223> Incyte ID No: 1412749H1
<400> 175
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teectggaac cgtateagge atteecetge eteteacaaa tgttteaggg aggeeagtte 120
tgcagggtgt cagc
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<211> 255
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<221> misc_feature
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<221> unsure
<222> 6
<223> a, t, c, g, or other
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accetgeete etetgttetg aaatteeate eeecteaget taggggaatg cacetttte 120
cettteette teaettttge atgtttttae tgateatteg atatgetaac egtteteage 180
cctgagcctt ggagaggagg gctgtaacgc cttcagtcag tctctgggga tgaaactctt 240
aaatgctttg tatat
<210> 177
<211> 259
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 2949085H1
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<221> unsure
<222> 60-75
<223> a, t, c, g, or other
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atcaatgate accgggetgt gggeatgget atctacaatg tggeagteet gtgeeteate 180
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<210> 178
<211> 284
<212> DNA
<213> Homo sapiens
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<223> Incyte ID No: 2963196H1
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<221> unsure
<222> 162
<223> a, t, c, g, or other
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cccctccact cccgacccgg tggatttctc cctggctggg gnctcaatgc tggcttcaag 180
gagacccggg ccatgagcgg gcagagatga tggagctcaa tgaccgtttg caagctacat 240
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<210> 179
<211> 279
<212> DNA
<213> Homo sapiens
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gctccattaa ctattaccct tgtgagagaa gaggtgattg acttctcaaa gcccttcatg 180
agcctcggga tatctatcat gatcaagaag cctcagaagt ccaaaccagg agtgttttcc 240
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<210> 180
<211> 205
<212> DNA
<213> Homo sapiens
<220>
<221> misc_feature
<223> Incyte ID No: 1674985H1
<220>
<221> unsure
<222> 76
<223> a, t, c, g, or other
<400> 180
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ttagaaattg caaatngtta acttttcatc atgtaaaaag ttaacattat cctatttcca 120
tagataccat ggacggcggt gtggcctgag ttgtcagtct ttaatcctga gtcatgtggc 180
tctctttca tctttgatgt cagtt
<210> 181
<211> 464
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 2109054R6
<220>
<221> unsure
<222> 439
<223> a, t, c, g, or other
<400> 181
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ttattcagtg gtttaagaaa ttctttgacg caaactatga tggaaaggat tacaaccctc 180
tgctggcgcg gcagggccag gacgtagcgc cacctcctaa cccagttcca cagaggacgt
cccccacagg cccaaaaaac atgcagacct ctggccggct gagcaatgtg gccccccct 300
gcatteteeg gaagaateet ecateageee gaaatggegg ceatgagaet gatgeecaaa 360
ttcttgaact caaccaacag tggtggactt gaagctgaca gtggatgggc tggagaagga 420
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<210> 182
<211> 238
<212> DNA
<213> Homo sapiens
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<221> misc_feature
<223> Incyte ID No: 3317039H1
<400> 182
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ctettettea atggeaceeg tgeettgaag gatgagegtt tecagettga ggagttetee 120
ccacgccggg tgcggatccg gctctcagat gcccgcctgg aggacgaggg gggctatttc 180
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<210> 183
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<212> DNA
<213> Homo sapiens
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<221> misc_feature
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276, 308, 324
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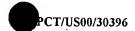
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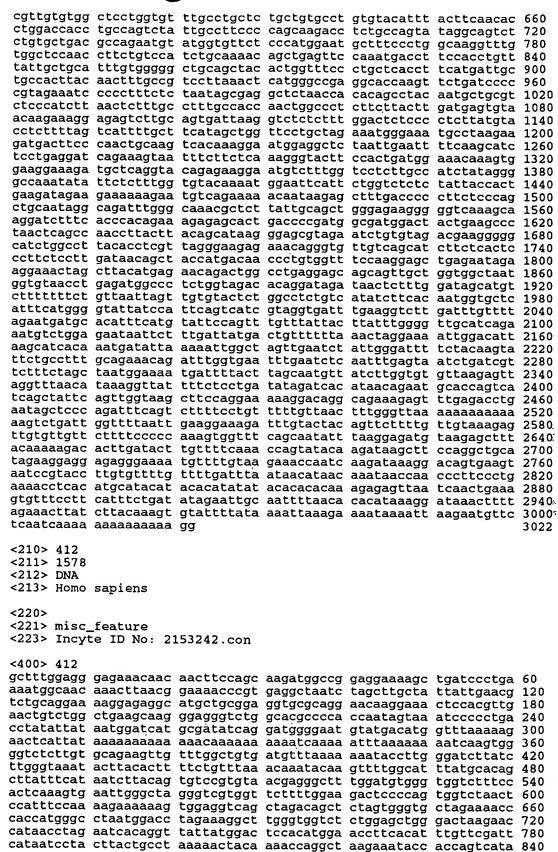
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